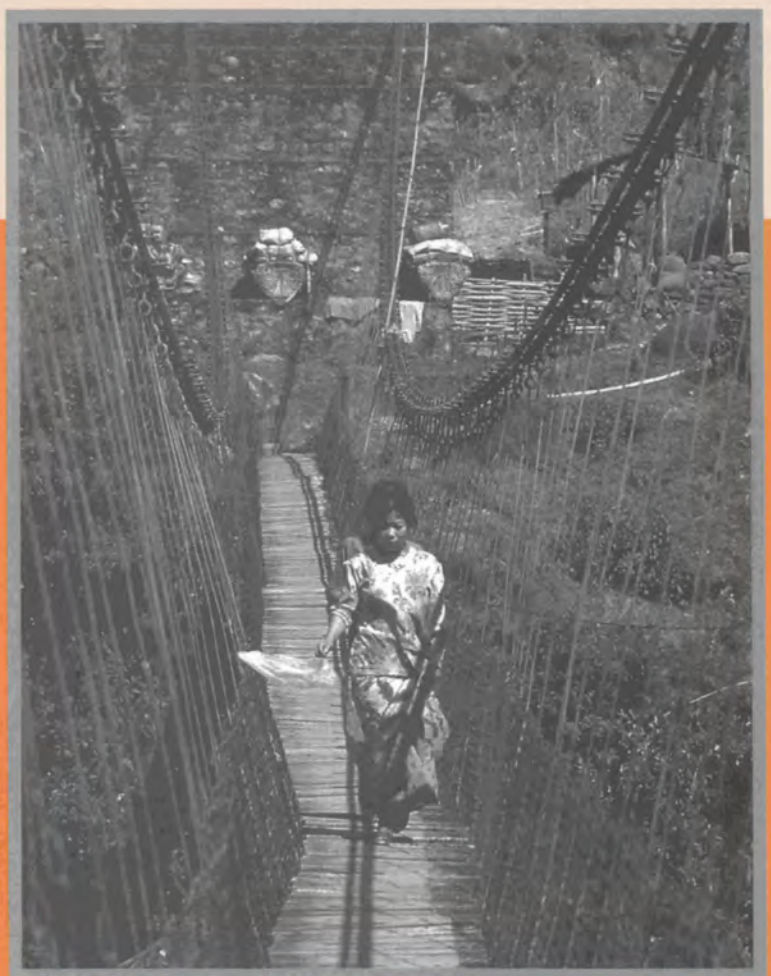
GHANA S. GURUNG

Reconciling Biodiversity Conservation Priorities with Livelihood Needs in Kangchenjunga Conservation Area, Nepal



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Since the 1980s, participatory approaches have been applied in conservation projects to reconcile conservation and livelihood interests in protected areas of Nepal and elsewhere. The major challenge now is to find effective operational strategies based on lessons learned. This case study examines the successes and obstacles of the Kangchenjunga Conservation Area Project (KCAP) in addressing conservation and local livelihood needs through qualitative and quantitative research methods. The results indicate an improvement in forest conditions and community perception on increase in wildlife. This is also evident from reports of increasing crop and livestock depredations as well as enhancement of the livelihoods of most local inhabitants. The results also show that people-oriented conservation projects can successfully reconcile conservation priorities with livelihood needs of local people through long-term interventions that carefully integrate development issues into conservation strategies, and are implemented transparently through local institutions with facilitation of skilled human resources. Often, factors like the country's political instability and economic trends, affect conservation and livelihood issues more than any project intervention. However, in order to achieve socially favourable and ecologically sound conservation, it is imperative to address local livelihood needs while also getting constant external support for the conservation of endangered species.

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1 Programme Manager at the International Centre for Integrated Mountain Development (ICIMOD) in Nepal since November 2005.

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I dedicate this monograph to my late mother Kunsang Angmo who had a dream of her son achieving one of the highest forms of academic excellence but did not live long enough to witness this point in my journey. I miss you mom.

ACRONYMS

ACA	Annapurna Conservation Area
ACAP	Annapurna Conservation Area Project
ADB	Asian Development Bank
AGCD	Alternative Group for Community Development
BBLL	Bridge Building at Local Level
BS	Bikram Shah
BZ	Buffer Zone
CAMC	Conservation Area Management Council CARE Cooperation for American Relief Everywhere
CARE/N	CARE Nepal
CAUC	Conservation Area User Committee
CBD	Convention on Biological Diversity
CB-NRM	Community Based Natural Resource Management
CBO	Community Based Organisation
CBS	Central Bureau of Statistics
CFUG	Community Forestry User Group
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DAO	District Agriculture Office
DCIO	District Cottage Industry Office
DDC	District Development Committee
DDWO	District Drinking Water Office
DEO	District Education Office
DFID	Department for International Development
DFO	District Forest Office
DLDO	District Livestock Development Office
DNPWC	Department of National Parks and Wildlife Conservation
DoF	Department of Forest
DoPR	Department of Plant Resources
DSC	Development Study Group
DWDO	District Women's Development Office
ECD	Environment Conservation and Development
FAO	Food and Agricultural Organization, United Nations
FIT	Free Independent Travellers
FUG	Forestry User Group
GDP	Gross Domestic Product
GEF	Global Environment Facility
GLOF	Glacial Lake Outburst Flood
HDI	Human Development Index
HMC	Hotel Management Committee
HMG	His Majesty's Government
HMG/N	His Majesty's Government of Nepal

ICD	Integrated Conservation and Development
ICDP	Integrated conservation and development project
ICIMOD	International Centre for Integrated Mountain Development
INGO	international non-governmental organisation
IP	Individual Project
IP6	Individual Project 6
ITC	Integrated Training Course
IUCN	World Conservation Union
JACS	Joint Areas of Case Studies
KAAA	Kadoori Agriculture Aid Agency
KCA	Kangchenjunga Conservation Area
KCA-MC	Kangchenjunga Conservation Area Management Council
KCAP	Kangchenjunga Conservation Area Project
KMTNC	King Mahendra Trust for Nature Conservation
LSGA	Local Self-Governance Act
MAPs	Medicinal and Aromatic Plants
MBCAP	Makalu-Barun Conservation Area Project
MBCP	Makalu-Barun Conservation Project
MCA	Manaslu Conservation Area
MCAP	Manaslu Conservation Area Project
MDG	Millennium Development Goals
MFSC	Ministry of Forest and Soil Conservation
MG	Mothers' Group
MHDP	Mechi Hill Development Project (Mechi)
MS	Mountain Spirit
NCCR-NS	Swiss National Centre of Competence in Research, North-South
NFE	Non-formal education
NG	Nepal Government
NGO	Non-Governmental Organisation
NMCP	Northern Mountain Conservation Project
NPC	National Planning Commission
NPWCA	National Parks and Wildlife Conservation Act
NRM	Natural Resource Management
NSCFP	Nepal Swiss Community Forestry Project
NTFP	Non-Timber Forest Product
PA	Protected Area
PCRW	Production Credit for Rural Women
PAMS	Partnership Actions for Mitigating Syndromes
PPP	Park and People Project
PRSP	Poverty Reduction Strategy Papers
RADC	Remote Area Development Committee
RBNP	Royal Bardia National Park
RCNP	Royal Chitwan National Park
SAMANATA	Institute for Social and Gender Equality
SCAFP	Sagarmatha Community Agro-forestry Project
SDC	Swiss Agency for Development and Cooperation

SFDP	Small Farmer Development Programme
SLCC	Snow Leopard Conservation Committee
SNSF	Swiss National Science Foundation
SNV	Netherlands Development Organisation
TAL	Terai Arch Landscape
TMI	The Mountain Institute
UC	User Committee
UG	User Group
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNPC	World National Parks Congress
VDC	Village Development Committee
WCMC	Wold Conservation Monitoring Centre
WCPA	World Commission on Protected Areas
WPC	World Parks Congress
WWF	World Wildlife Fund (in US & Canada) World Wide Fund for Nature
WWF-NP	WWF Nepal Program
WWF-UK	WWF United Kingdom
WWF-US	WWF United States of America

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ABSTRACT

In response to the challenges associated with the 'fines and fences' approach to nature protection, participatory approaches, widely known as ICDPs, have been applied in conservation since the 1980s in an attempt to reconcile conservation and livelihood interests in protected areas in Nepal and elsewhere. Nevertheless, three decades of ICDPs have yield mixed results globally. Hence, the practitioners of people-oriented conservation approaches continue to struggle to find ways and means to balance biodiversity conservation with human welfare that are ecologically sound, socially just and economically feasible. The major challenge now is to find effective and efficient operational strategies to be applied in participatory conservation based on lessons learned.

In the national context, Nepal has made outstanding progress in nature conservation by transforming conservation approaches. Nepal has dedicated over 18% of its land for protection, enabling various forms of protected area management systems to evolve within the last three decades. Hence, Nepal offers ample learning opportunities on ways to overcome conservation challenges practically, in one of the most biogeographically and socio-culturally diverse yet least developed countries.

This case study empirically investigates the successes and obstacles of the Kangchenjunga Conservation Area Project (KCAP) in addressing biodiversity conservation priorities together with the livelihood needs of the local inhabitants. The research examines the participatory conservation interventions, implementation strategies and processes applied by the KCAP to address nature conservation and community development needs, using qualitative and quantitative research methods. Over one hundred local inhabitants of the KCA and fifty experts involved directly in ICDPs were interviewed to achieve an enhanced understanding of the subject under investigation.

The research results indicate an improvement in forest conditions in the area and a perceptible growth in wildlife numbers—judging from the increase in crop and livestock depredations—as well as the enhancement of the livelihoods of most of the local inhabitants and the creation of a positive attitude towards conservation among most of the local people. The results show that people-oriented conservation projects have potential to reconcile biodiversity conservation interests with the livelihood needs of local communities effectively. However, the results also indicate that this requires long-term interventions that holistically and carefully integrate community developmentoriented issues into conservation strategies and are implemented transparently through local institutions with the facilitation of skilled and committed personnel, mostly from the locality.

The results also show a number of emerging challenges from the project's success. These challenges are primarily related to the increasing crop and livestock depredations by wildlife, the growing expectations among the local people for further livelihood enhancement-oriented activities and the need to enhance the institutional capability of the KCA Management Council

to manage and sustain conservation efforts. Factors like the country's current political instability and economic trends often affect conservation and livelihood issues more than any project intervention. Nevertheless, it is imperative to address local livelihood needs while also receiving constant external support for the conservation of endangered species. This requires a good balancing act, backed up by periodic monitoring, evaluation and research feedback for an enhanced learning process.

The case study results, as well as global conservation experiences, clearly signal that people-oriented conservation approaches, providing the space to negotiate human-wildlife conflicts, are a desirable alternative to traditional nature conservation approaches. In fact, there are very few alternatives to inclusive participation for sustainable conservation that are compatible with democratic values and norms. Therefore, people-oriented conservation approaches should be pursued and refined for sustainable conservation and to meet the livelihood needs of local people, as well as for their voices to be heard.

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Rs. Nepali Rupees
1 US $ = Rs. 72

1. INTRODUCTION: RESEARCH OVERVIEW

1.1 Overview

Humans have co-existed with nature, evolving and shaping the landscape, for thousands of years. However, the balance between man and nature was only questioned in more recent times. Initial ideas of nature conservation involved the strict protection of natural areas from human consumptive use. This negatively impacted on indigenous populations who were denied access to, and even evicted from, their homelands (Müller-Böker 1999). While ignoring people's livelihood needs and rights, this 'fines and fences' approach also failed to succeed in conserving natural areas as local people opposed and undermined conservation management regimes.

This brought about a paradigm shift from 'protectionist' to 'people-orientated' approaches (Chape et al. 2003) and the birth of Integrated Conservation Development Projects (ICDPs), adopted by conservation organisations like World Wildlife Fund (WWF) in the early 1980s. However, practitioners and proponents of ICDPs continue to struggle to find ways to balance biodiversity conservation with human welfare that are ecologically sound, economically feasible and socially just (Brechin et al. 2002). The current debate is centred around the effectiveness of ICDPs in delivering the dual goals of biodiversity conservation and sustainable livelihood outcomes in protected areas.

Globally, two decades of ICDPs have provided mixed results (Jeanrenaud 2002). However, recent studies in Nepal show promising results for participatory conservation projects in terms of addressing biodiversity conservation and social development needs. Indeed, it is important to understand the kind of ICDP activities, processes and tools that contribute to participative conservation, as the justification for community-based conservation approaches is no longer an issue in Nepal, or elsewhere.

There is an enormous amount of literature on ICDPs, but most of it tends to be prescriptive, rather than supply analytical remedies for the approach. The authors who are critical of ICDPs conclude that the approach needs to be pursued and improved, not just critiqued. Despite the fact that many studies have repeatedly pointed out the weaknesses of ICDP and made a number of generic recommendations for enhanced people-orientated conservation approaches, there is very little evidence on how to translate this knowledge into action to effectively reconcile biological diversity conservation interests with local community development needs in protected areas. In other words, hardly any empirical evidence exists on how research-based recommendations are applied on the ground to mitigate the deficiencies of ICDPs. Accordingly, this research examines the activities,

processes and tools applied by the Kangchenjunga Conservation Area Project (KCAP) in Nepal in order to overcome the weaknesses of participatory conservation approaches.

It is hoped that this study will contribute towards achieving a critical balance between protection and the sustainable use of natural resources in protected areas through community-based conservation approaches. To facilitate this, the ICDP principles and strategies applied by the KCAP, to reconcile biodiversity conservation priorities with the livelihood needs of the local inhabitants of the Kangchenjunga Conservation Area (KCA) in Nepal, are critically examined.

1.2 Thesis Outline

This thesis is organised into eight chapters. This chapter gives a brief overview of the subject under investigation, while the research contexts, methodological approaches and tools applied in this research are described in Chapter 2. Chapter 3 provides an up-to-date account of global nature conservation initiatives. This chapter presents the evolution of protected area development, the rationale behind the paradigm shift from 'protectionist' to 'people-oriented' conservation approaches and the challenges associated with ICDPs. Chapter 3 also critically examines the opportunities and challenges pertinent to enhanced people-oriented conservation approaches. Chapter 4 presents the state of Nepal's nature conservation efforts and experiences relevant to protected area development and, particularly, to community-based conservation initiatives.

Chapter 5 elucidates the state of the local environmental and livelihood conditions in the KCA and the relationship between biodiversity conservation and the community development needs of the local people. Chapter 6 presents the integrated conservation and development interventions applied by the KCAP in order to achieve the dual objectives of biodiversity conservation and community development through local capacity building. Chapter 7 presents the views of local people on the KCAP and examines the project's impact on forest and wildlife conservation, livelihood improvement and the capacity building of the local inhabitants. This chapter presents the participatory principles and strategies applied by the KCAP in the light of the criticisms of second generation ICDPs or 'real people-oriented conservation approaches'. In another words, the results are critically analysed according to the limitations and potential of ICDPs and the understanding of community-based conservation approaches.

The main conclusions of the study are presented in Chapter 8 along with the practical implications of the results and research topics that could be explored in the future.

2. CONCEPTUAL AND METHODOLOGIAL RESEARCH APPROACH

This chapter outlines the conceptual and methodological framework of this thesis. It is divided into three sections. The first section describes the research questions and the chosen research approaches. The second section presents the contexts in which the field research was conducted, followed by the methods applied for data collection and analysis in the third section.

2.1 Research Questions and Approaches

2.1.1 Conceptual Approaches

The aims, questions and analytical concepts underlying this research are specifically formulated to allow for an exploration of the ways in which participatory conservation approaches reconcile nature conservation interests with the sustainable livelihood needs of local people residing in protected areas. The primary focus of this research is to critically examine the Integrated Conservation and Development Project (ICDP) principles and strategies applied in the Kangchenjunga Conservation Area Project (KCAP) in order to achieve the dual objectives of biodiversity conservation and livelihood improvement for the local inhabitants. Hence, at the heart of this research is not the question of 'why' (i.e., justification for) participatory approaches should be used in conservation, but rather 'how' (i.e., interventions/strategies) they should be implemented to be more effective. Indeed, the research aims to attain an enhanced understanding of people-oriented conservation approaches and to contribute towards achieving a critical balance (a 'win-win' situation) between protection and the sustainable use of natural resources in protected areas. The main research objective is to contribute to bringing about effectiveness in the KCA(P) management.

Considering the holistic nature of the KCAP, research emphasis was placed on examining project activities and implementation processes and strategies, as well as assessing the overall impact of the project on biodiversity conservation and on the livelihoods of local people and their institutions. The aims and objectives of this were explored by seeking answers to the following key research questions (Appendix I).

1. What is the state of biodiversity conservation and livelihoods of local people, and the relationship between them in the Kangchenjunga Conservation Area?
2. What and how are KCAP interventions devised and managed?
3. How does KCAP impact upon biodiversity conservation and the livelihoods of local people?
4. How are the ICDP principles and strategies applied by KCAP to deliver the intended results, and what are the successes and constraints?
5. What are the lessons learned and future alternatives, innovations and improvements to people-oriented conservation approaches to protected area management?

The research results are analysed according to the underlying assumptions (Box 3.1) and shortcomings of ICDPs (Box 3.2) and the ways in which people-oriented conservation approaches can be improved (Chapter 3.2 and Box 3.3). The criticisms of ICDP approaches, in general (Jeanrenaud 2002; Wilshusen et al. 2002), and the way forward for enhanced community-based natural resource management strategies advocated by Becker and Ostrom (1995) and Brown (2003b) and the participatory steps prescribed in Table 2.1, in particular, form the basis for analysis and the drawing of conclusions from the case study results. The key assumptions of ICDPs are tested against the case study results to understand the effectiveness of second generation ICDPs in reconciling biodiversity conservation interests with local livelihood needs, aspirations and actions.

Table 2.1: Community Participation Measurement Steps and Impact Indicators

Measurement Steps	Impact Indicators
Information given	Local people and other stakeholders are informed about the conservation project (e.g., its objectives, activities and implementation modality).
People present	A number of informed local people are present during project interactions and planning.
Concerns raised	A number of local women, men and children are among those present actively voicing their concerns.
Voices heard	A number of local people's voices or concerns are heard or valued by the project.
Voices legitimised	A number of decisions are formally taken based on the heterogeneous voices of local people.
Decisions implemented	A number of decisions are implemented to benefit locals equitably with emphasis on vulnerable, poor and marginalized individuals and groups.
People benefited	A number of vulnerable, poor, marginalized and other local inhabitants are directly benefiting from participation, and local people (institutions) are self-mobilized in project planning, management and evaluation to sustain and further project initiatives in the long run.

Source: modified from Arnstein 1969, p.217 and Pimbert and Pretty 1997a, p.309

2.1.2 Selection of Case Study

The Kangchenjunga Conservation Area Project (KCAP) was selected as a case study for this research for four main reasons. Firstly, Nepal is one of the most well-known countries in the world for its advanced ICDP trail grounds that began with the Annapurna Conservation Area Project in 1986 (Bunting et al. 1991; Keiter 1995; Stevens 1997a; Gurung 1998; Bajracharya et al. 2005). Secondly, the KCAP is the first second generation ICDP model to create and manage a protected area based on the lessons learned from three decades of participatory conservation approaches by the WWF network (WWF-NP 1998; Müller-Böker and Kollmair 2000). Thirdly, promising results have emerged from the KCAP model in relation

to biodiversity conservation and the improvement of the livelihoods of local inhabitants (Loksam 2003; Mountain Spirit 2003; Kollmair et al. 2003; Toccoli 2004; Locher 2006), raising the need for further investigation to examine the best practices of innovative ICDPs like KCAP and their contribution towards the effective reconciliation of local interests, priorities and actions with national and global conservation agendas. Finally, it is logical for the empirical investigation and documentation of the lessons learned from the KCAP to be conducted by a person involved in the design and implementation of the project, such as myself (Section 2.2.1).

2.2 Field Research Contexts

Before describing the research methodology, it may be useful to present an account of the three main research contexts: my personal experience, the insurgency situation in Nepal and the NCCR-North- South research project under which this study was completed. Each context has had a specific influence on the research design and field work, as well as on the analysis of the results (Marshall and Rossman 1999; Seale 1999).

2.2.1 Personal Experience

I have been involved in implementing Integrated Conservation and Development Projects (ICDPs) in Nepal since the Annapurna Conservation Area Project (ACAP) began in 1986. Since 1993, I have worked at a managerial level to execute various ICDPs while working at the King Mahendra Trust for Nature Conservation (KMTNC) and WWF Nepal Program (WWF-NP). I have had the opportunity to engage directly in the design, implementation, monitoring and internal evaluation of the ICDPs of all three conservation area projects in Nepal, namely, ACAP, Manaslu Conservation Area Project (MCAP) and the KCAP. I have been fortunate to work in the field of my personal interest and academic background.

My previous work experience and detailed knowledge of the case study area and its inhabitants greatly facilitated this research, particularly in the volatile security situation during which free and objective communication between individuals was significantly restrained. Similarly, no interpreter was needed as I speak Tibetan and Nepali languages, both commonly spoken in the research area. Many local inhabitants knew me, while others could relate to my previous work and, therefore, formal introductions during the interviews were barely necessary. However, the need to ensure confidentiality and the anonymity of respondents became clear (Rubin and Rubin 1995), especially in the ever-worsening security situation which threatened the lives of the local people. Hence, I agreed to mention only respondents' surnames with initials in short form when citing their statements. Most of the interviewees suggested not citing their names when the statements could be interpreted as anti- state or anti-Maoist.

My work experience and access to secondary data helped me to verify some of the information provided by the respondents, allowing me an enriched data collection for information triangulation (Silverman 2000). To the best of my knowledge, all the local interviewees provided answers without any reservations. A few of them even dared to share

their deepest experiences of suffering under the insurgency, with tears, while many others expressed hopelessness and dissatisfaction with the political environment and their inability to fully capitalise on the benefits of the KCAP.

Acquiring a research permit from the Department of National Parks and Wildlife Conservation (DNPWC) and scheduling interviews with experts proved relatively easy because of my association with one of the largest and experienced independent global conservation organisations, i.e., WWF, and my previous working relations. However, taking interviews with experts proved problematic in Kathmandu due to street demonstrations and them being busy professionals (Marshall and Rossman 1999).

I may have brought certain biases to the study as a conservation worker, despite my best efforts to sensitively reflect on my personal biography (Kvale 1996; Creswell 2003). My entire work experience in community-based conservation in many ways shapes my ability to view, understand and interpret the case study objectively. However, the advantages of having knowledge of the case study area, language skills and, most importantly, links with interviewees, out weighs the disadvantages associated with research bias (Rubin and Rubin 1995; Thomas 2004). Indeed, interviewing individuals and politicians who had expressed a strong negative attitude towards the KCAP during the initial phase was a great experience; particularly recording their 180-degree positively changed views seven years on.

2.2.2 Insurgency

The field research work began when Nepal was going through one of its most serious internal crisis since it was founded in the mid 18th century. The Maoist Communist Party of Nepal (CPN-Maoist) has been waging a so called 'people's war' since 1996, aimed at replacing the monarchy with a communist republic (Thapa 2002; Upadhya 2002). In response, the Government declared a state of emergency to combat the insurgency by mobilising the Army and other security forces. Despite the mobilisation of security forces to curb the insurgency, and the Government's constant reports of its successes, no visible security improvements were observed on the ground during the field work, and fighting and killing continued even during the ceasefire period. The mobilisation of security forces created an even more unpredictable and dangerous situation for anyone, including myself, to move around and talk to people, particularly, in the late evening and in groups. Regular night curfews (7 pm–5 am) in Phungling Bazaar, Taplejung (as in other district headquarters), occasional foot and air patrols of KCA villages by state security forces and the Maoist influence in villages situated just a few kilometres walk from the district headquarters, placed further restrictions on my field work.

An increased mistrust among and between villagers was observed due to the volatile security and political environment. Most people were simply reluctant to talk to any stranger and, as far as possible, preferred to maintain a neutral position between the warring sides for their personal safety. The extortion of money, in the name of donations and/or 'revolutionary tax' imposed by the Maoist, was common in Taplejung district. Similarly, killings in so-called 'encounters' by the security forces was observed. For instance, the ex-VDC Chairman and

WWF Abraham Conservation Award 2000 winner Mr Pasang Bhutia was killed in an encounter by the security forces at his own house in Yamphudin.

After assessing the security situation in consultation with my supervisors, the KCAP staff and others, I did not visit the KCA villages, as initially planned, during February and March 2004. As an adaptive measure (Rubin and Rubin 1995; Marshall and Rossman 1999; Thomas 2004), I conducted interviews in the district headquarter Taplejung and hired eight local research assistants to collect additional data from all of the KCA villages. These assistants had experience in conducting investigative interviews, as they were involved in reporting to major daily newspapers in Kathmandu, and were not threatened by either warring side at the time of the field work. These assistants were given an orientation to my research (e.g., its objectives) and provided with a checklist of questionnaires with which to conduct semi-structured interviews and to record direct observations. My mobility in Kathmandu also became highly restricted by the constant demonstrations and general strikes called by the political parties and the Maoist alike. As a result, I had to re-schedule many interviews with experts, some of which were conducted between July and August 2004.

2.2.3 NCCR North-South

This case study was conducted within the overall conceptual research framework of the Swiss National Centre of Competence in Research (NCCR) North-South and according to the specific objectives of Individual Project 6 (IP6[1]), which focuses on the highland-lowland syndrome in the Joint Areas of Case Studies (JACS) in South Asia (NCCR North-South 2002/03; Müller-Böker 2004). The Development Study Group, Zürich (DSGZ) at the Department of Geography of the University of Zurich is leading the IP6 and is involved in a wide range of partnership research activities in South-Asia, including this case study.

The NCCR North-South programme is jointly funded by the Swiss National Science Foundation (SNSF) and the Swiss Agency for Development and Cooperation (SDC), and implemented by a network of Swiss academic and research institutions in partnership with like-minded academic institutions from the South (Hurni et al. 2004; Maselli et al. 2004). The prime goal[2] of the NCCR North-South is to contribute towards the mitigation of the negative impacts of global change for sustainable development.

To promote greater understanding among and between the scientific communities of the North and South, inter- and trans-disciplinary research is practiced by the NCCR North-South (Rist et al. 2004) and the results are regularly shared though integrated training

1 The main objective of IP6 is to identify key livelihood issues of marginal communities in relation to changing institutional (formal and informal) rules that support or hinder sustainable development, and to gain knowledge with the aim to "... provide local, state and intermediary organisations with the basis for funding arrangements at different levels of society to reduce conflict between local and national or international rules" in order to contribute effectively to mitigating syndromes of global change (NCCR North-South 2002/03, p.25).

2 The prime goal is "... to complement traditional research approaches focusing on specific core problems of non-sustainable development in developing and transition countries by a broader approach: on the one hand, it strives for a better understanding of the interactions between such problems and the specific patterns of the interactions. On the other hand, it seeks to establish closer collaboration with the people directly concerned. Together, this should allow for more efficient strategies to be identified in order to mitigate problems of global change" (NCCR-North-South 2002/03, p.2).

courses (ITCs), workshops, interactions, conferences, PhD networks and joint publications. The research findings are also disseminated to outside academics and communities in the case study areas in order to transfer knowledge and technology that may contribute to the overcoming of marginalities (Müller-Böker 2004; Gurung and Kollmair 2005) and mitigate the problems of global change (Hurni et al. 2004).

One of the most innovative research approaches of the NCCR North-South is known as Partnership Actions for Mitigating Syndromes (PAMS). The PAMS programme aims to test and transfer technology and knowledge through participatory actions that benefit people and institutions affected by syndromes of global change and enhance understanding of applied research (NCCR North-South, 2002/03; Hurni et al. 2004; Haupt and Müller-Böker 2005). PAMS projects are relatively small scale and time bound (one year funding). Projects materialise in partnership with local stakeholders and are co-financed by the NCCR North-South (up to $40,000/project) with scientific backstopping by PhD researchers.

I was fortunate to receive PAMS support to explore strategies for reconciling one of the most challenging conservation issues, i.e., 'human-wildlife conflict', in my case study area. The prime objective of my PAMS—titled Community-Managed Livestock Insurance Scheme for Cost-Benefit Sharing in Kangchenjunga Conservation Area, Nepal—was to find a sustainable mechanism to mitigate the negative impact of snow leopard conservation on the livelihoods of the KCA livestock owners (WWF-NP 2005a; http://www.nccr-north-south.unibe.ch/transfer.asp, Accessed 15 June 2005). This pilot project was co-financed and implemented by WWF-NP in partnership with the DNPWC and the KCA Management Council. The Snow Leopard Conservation Committee (SLCC) at Ghunsa manages the insurance scheme in close collaboration with the local mothers group, and the initial results are encouraging (Chapter 6.2.3 and Box 6.1).

2.3 Methods Applied

Qualitative research approaches are recognised as the most valuable way of attaining an in-depth understanding of various disciplines, including social, anthropological and livelihood oriented research (Rubin and Rubin 1995; Seale 1999; Silverman 2000; Thomas 2004). The applied methods in this thesis are in-line with the main research aims of achieving an enhanced understanding of what and how lessons are learned from ICDPs and effectively applied in participatory conservation. Marshall and Rossman (1999) and Flyvbjerg (2004) suggest that qualitative research methods are useful for gathering large amounts of information quickly and for achieving a profound understanding of the subject under investigation. The main reasons behind primarily applying qualitative social science research methods in this case study are listed below:

- To achieve an in-depth understanding of the extent of the relationship between nature conservation and people's livelihoods in the KCA, and the ICDP strategies effectively applied in the KCAP.
- To understand and incorporate the voices of individuals and ethnic minorities often marginalized in quantitative statistics.

- To complement quantitative gender-sensitive socio-economic survey and relevant natural resources data available from the WWF-NP office.
- To enrich quantitative data gathered during the field studies.
- To complement natural science-based information on the implications for natural parameters.

As the overall socio-political environment in Nepal was filled with pessimism due to the ever worsening insurgency, it was important to apply an appreciative inquiry technique in interviews and discussions, as far as possible (Hammond and Loyal 1998). Hence, instead of the usual 'problem- oriented' approach, a 'solution-oriented' investigative approach was taken, which fitted well with the research objective of understanding the best practices of participatory conservation. As the KCA initiative, like most conservation undertakings, represents to some extent a 'top down' global agenda (WWF-NP 1998) it was even more important to explore solutions to improve participative conservation, rather than focusing on the problems with integrating people into protected area management. Thus, interviews and discussion were focused more on finding ways to mitigate problems (Hurni et al. 2004; Haupt and Müller-Böker 2005), rather than simply extracting problems. For instance, instead of asking why snow leopard protection is problematic, it was asked how snow leopard conservation could generate benefits for the local population? Indeed, the research approach was shaped in order to contribute to solving social problems by examining successes and failures (Rubin and Rubin 1995).

The key questions for the field research were prepared in consultation with my supervisors Professor Dr Ulrike Müller-Böker and Dr Michael Kollmair, and two Master level students, Ms Martina Locher and Ms Flavia Toccoli, who conducted their field studies in the KCA in 2003 with a focus on gender and wildlife issues respectively. Some of the questions used in the 1998 study by Müller- Böker and Kollmair (2000), and studies by Locher (2004) and Toccoli (2004) were also repeated to compare the perceptions of the local inhabitants towards the KCAP at inception and during the final phases.

2.3.1 Data Collection

Most of the relevant secondary information was collected and reviewed to form the basis for primary data gathering. The primary data was collected from January to May and in July 2004 (Table 2.2 and Table 2.3). Many of the case study related secondary data was also gathered simultaneously during the same period, along with additional literature for review. Multiple interviewing methods were applied (Kvale 1996) to critically examine the KCAP interventions. The methods applied for information gathering are as follows:

- interviews
- discussions and observation
- stakeholder consultations
- document analysis

The following section describes the data collection procedures and methods for secondary and primary data.

2.3.1.1 Secondary Data

A number of published and unpublished research documents and reports on KCAP were accessed from WWF-NP and DNPWC offices in Kathmandu and the KCAP liaison office in Taplejung Bazaar. The information generated by various socio-economic, tourism, forestry and wildlife related studies carried out by WWF-NP and other researchers since 1994 were thoroughly consulted while collecting and analysing the primary data. Among the available grey[3] literature, socio-economic studies (Amatya et al. 1995; Dhakal 1996; WWF-NP 2001a), natural resources studies (Sherpa 1994; Carpenter et al. 1994; Yonzon 1996; Hetts 1996), KCAP evaluation reports (SAMANATA 2001; Mountain Spirit 2003), NTFP/MAPs research (Sherpa 2002), KCA tourism and management plans (Gurung 1996; Schellhorn and Simmons 2000; KCA-MC 2005), KCAP retrospective report (WWF- NP 2005b) and KCAP annual technical reports provided useful background information to the research.

Among the documents consulted, the KCA Regulations (Appendix VII), KCA Management Plan (Appendix VIII), Protected Area Privatization Policy and mothers groups saving and credit schemes documents (Appendix IX) were closely examined as these documents have a major impact on the overall and long-term management and development of the area. Likewise, the lessons learned section of the KCAP Annual Technical Progress Reports between 1998 and 2005 and the strategies outlined in the KCAP Retrospective Report (WWF-NP 2005b) were closely consulted.

The data derived from scientific studies (Müller-Böker and Kollmair 2000; Kollmair et al. 2003; Toccoli 2004; Locher 2004 and 2006) conducted in the KCA by the Department of Geography, University of Zurich were invaluable in the analysis of primary data. Furthermore, other publications (cf. Watanabe 1999; Yonzon et al. 2000; Timilsina and Basnet 2001; Watanabe and Otaki 2002; Gurung and Gurung 2002a; Bhandari 2003; Loksam 2003; Mahato 2003; Gautam and Watanabe 2004) were also consulted. In many respects, working in collaboration with other researchers complemented the case study findings. The results of Schubiger (2006) on forest cover change, Oli and Nepal (2003) on the impact of non-timber forest products (NTFP)/medicinal and aromatic plants (MAPs) on local livelihoods, and the KCAP's wildlife monitoring data all provided quantitative empirical evidence with which to analyse the case study results. The validity of these studies varies and, therefore, can be challenged, even though they are referenced in research documents. Most importantly, up-to-date literature on ICDPs by most of the prominent authors on the topic formed the basis for the research and with which to analyse the results (Chapter 3.2).

2.3.1.2 Primary Data

In the process of field data collection, a total of 50 experts (7 female and 43 male), 108 KCA inhabitants (52 female and 56 male) and 15 Taplejung district residents (4 female and 11 male) were interviewed (Appendix II). A number of discussions were also held with individuals and groups to enrich the understanding and analysis of the case study.

3 Grey literature refers to reports, theses, technical project reports and other documents not published commercially.

The research targeted six different groups (Table 2.2) for primary data collection. The case study findings represent the perceptions and experiences of women and men from all of the 35 settlements in the KCA, and conservation, development and research institutions working in ICDPs in and around the protected areas of Nepal. Individual perceptions, as well as institutional views, were sought from each respondent associated with organisations. The risk of being selective and/or gathering biased information was avoided by including all of the concerned stakeholders (Silverman 2000).

Table 2.2: Research Target Group and Respondents

Target Group	Respondents and Institutions
Local inhabitants/community	Local women and men from KCA, including representatives of KCA UGs, MGs, UCs and the KCA Management Council, and ex-DDC and VDC officials.
Taplejung district headquarter-based individuals and institutions	Representatives from district based NGOs, journalist forums, political leaders and other individuals.
Concerned government agencies	Representatives from the MFSC, DNPWC, DPR and KCAP staff deputised by the DNPWC.
Non-government conservation institutions	Representatives from WWF-NP and KCAP staff deputised by WWF-NP, KMTNC, TMI and IUCN Nepal.
Non-government development institutions	Representatives from UNDP, CARE Nepal, SDC and DFID
Research institutions	Representatives from Resources Himalaya, SAMANATA, Mountain Spirit and New Era.

Table 2.3: Field Research Timeframe

Date	Place	Research Activity
January-May, and July 2004	Kathmandu Taplejung	• Interviewed experts and collected secondary information. • Interviewed KCA inhabitants and collected relevant secondary data. • Presented preliminary results in JACS South-Asia Workshop.
November-December 2005	Kathmandu Taplejung	Presented research findings to stakeholders and updated information for final draft.

Using interviews as a research tool enabled me to adapt to changing situations, and to adopt an inductive approach to identifying patterns in the data derived from the actual experiences of respondents (Seale 1999; Thomas 2004). A semi-structured in-depth interview approach was applied as a primarily method to generate rich and valuable data with full acknowledgment of both the advantages and limitations of this research tool (Thomas 2004). The research topic was introduced to each interviewee and then discussions were guided by asking general questions followed by specific questions. Interview questions were modified in order to gain insights from individuals according to

their culture, ethnic groups, gender, age, profession, expression, body language and social position (Rubin and Rubin 1995; Silverman 2000, 2001). I asked the same key questions to every respondent in order to understand individual views on the impact of the KCAP and the lessons learned from ICDPs in general, and the KCAP in particular. The other tool used in the research was the unstructured interview, in which the research subject was introduced to the respondents without any specific questions, to let them answer as they wished (Rubin and Rubin 1995).

Expert Interviews: Seven semi-structured in-depth interviews were conducted with experts (e.g., individuals with work and research experience in ICDPs) in Kathmandu, to further shape the key research questions before leaving for the case study site to gather data from local women and men, and other individuals, directly or indirectly involved in the KCAP. The remaining 43 expert interviews were conducted after returning from Taplejung. Most of the expert interviews lasted about one hour and were recorded on audio cassettes with the prior consent of the respondents. The main discussion points were also taken down in a note book as a backup strategy (Kvale 1996; Marshall and Rossman 1999). A few respondents showed a little bit of unease in the recorded interviews during the initial phase (first 1–5 minutes) of the interview, but the recording was unnoticed as the discussion progressed and the conversation took a more natural course. However, to create a conducive interview setting, I spent the first few minutes explaining my research objectives and expected outputs before asking probing questions. I began by asking general questions such as what have we learned from ICDPs?

The expert interviews were conducted in English and Nepali-English mixed, known as 'development language', to minimise translation difficulties, as all of the respondents could communicate fluently in English (Appendix II). Any kind of sampling was not necessary as nearly all of the representatives from government line agencies responsible for the management of PAs and natural resources, NGOs working in ICDPs and relevant research institutions were interviewed to extract meaningful data. The head of each institution and other experts directly involved in ICDP implementation were interviewed to capture institutional policies, practices and plans (Marshall and Rossman 1999).

Institutions such as Resources Himalaya had carried out various biological researches in the KCA while SAMANATA and Mountain Spirit had conducted mid-term and final KCAP evaluations respectively. It was also felt necessary to interview representatives from CARE Nepal, the Department for International Development (DFID), Swiss Agency for Development and Cooperation (SDC), Netherlands Development Organisation (SNV) and the United Nations Development Programme (UNDP) to incorporate the views of development agencies working in natural resources management for sustainable livelihoods with a focus on poverty reduction in Nepal.

Local Interviews: A total of 108 women and men living inside the KCA and the 15 district headquarter residents were interviewed between January and April 2004. Unstructured and semi- structured in-depth interviewing tools were mostly applied. I myself conducted 66 (51 KCA residents and 15 district headquarter residents) in-depth interviews in the Taplejung

district headquarters, and the research assistants carried out the remaining 57 interviews in KCA villages.

I hired an assistant from the KCA to help me with data collection in Taplejung Bazaar. He contacted all of the people (regardless of gender, age and ethnicity) coming from KCA to Taplejung Bazaar, and those at the Bazaar who were internally displaced by the insurgency. The KCAP staff also helped me to set meetings with individuals and groups. This strategy proved very effective, as I was able to interview women and men from all walks of life who came to the district headquarters for various reasons including for medical treatment, wage labour, portering, petty trade, official documentation, banking, and a few even to report to the security forces. It would not have been possible to interview so many people in such a short period of time if I had gone to the villages as planned because most of villagers were displaced by the insurgency and others (mainly men) were constantly moving between the Bazaar and the villages.

Discussions and Observations: A number of informal discussions were held with experts and respondents from the KCA to gather additional information and to cross check the data collected in the interviews. Group discussions were held with the representatives of district based NGOs and 'Journalist Forum'[4]. These discussions were taped with the prior consent of the participants and notes were taken during the discussions to capture key phrases, meanings of expressions and body language. Informal interviews were conducted with KCA teachers, development workers and local journalists. Participatory observation and informal discussions were used as complimentary methods to enrich the information collected from individuals and during group interviews. Supporting or opposing responses to the same question by different individuals were recorded and observed during group discussions.

Stakeholder Consultations: I was able to participate in stakeholder consultations held on the KCA Regulations and Management Plan and during the annual KCAP review and planning meetings during my field research in 2004. The issues related to the handing over of the KCA management responsibility from the HMG/N's (now the Government of Nepal's) DNPWC to the local KCA-MC were discussed in detail, as well as the protected area privatization policy of Nepal. Informal discussions were also held after the meeting with experts, including the Secretary of the Ministry of Forest and Soil Conservation, the Joint Secretaries and the Director Generals of the DNPWC and the Department of Forest.

To verify the results and materialise the objectives of the NCCR-North-South's knowledge and technology transfer, stakeholder consultations on the case study findings were conducted in Taplejung in December 2005 (Appendix III). Results were presented to the respondents and other stakeholders to ensure that my interpretation of the findings reflected their views and perceptions. The other aim was to disseminate the findings to the experts, as well as to local women and men, with the intention that the shared results would contribute to an enhanced understanding and improve participatory conservation in the KCA.

4 Journalist Forum is a district level NGO formed with members, representing the major national media houses and the district level newspapers based in Phungling bazaar.

The preliminary results were presented at a NCCR North-South International Conference in August 2004 held in Thun, Switzerland. Likewise, the results were also presented at an International Conference on Conservation Biology held in Kathmandu in November 2005, at which most of the conservation experts of Nepal and beyond were present (Gurung 2006).

2.3.2 Data Analysis

Data analysis started right from the first phase of the field work with modified interview questions and approaches (Rubin and Rubin 1995; Creswell 2003). Preliminary analysis started by summarising the key points after each interview, and categorising them under research objectives, key questions and the new themes emerged. Feedback received at international conferences and during stakeholder consultations, and comments from reviewers of my paper greatly contributed to the analysis of the results.

The audio cassettes were transcribed, and professional transcribers were also hired to speed-up the work. Audio cassettes of individual interviews were given to professionals for transcription, but not those for group interviews and discussions (as they could not refer to the person speaking) nor the interview notes (due to shortcut words/sentences, context and handwriting), which were subject to my personal understanding.

The data analysis steps (Table 2.4) proposed by Marshall and Rossman (1999, p.147–203) and Creswell (2003, p.190–207), in particular, and the procedures described by Rubin and Rubin (1995), in general, were applied for the systematic analysis and interpretation of information collected. The results are categorised along the three main objectives of the KCAP and analysed within the conceptual framework of ICDPs (Chapter 2.1.1 and Chapter 3.2).

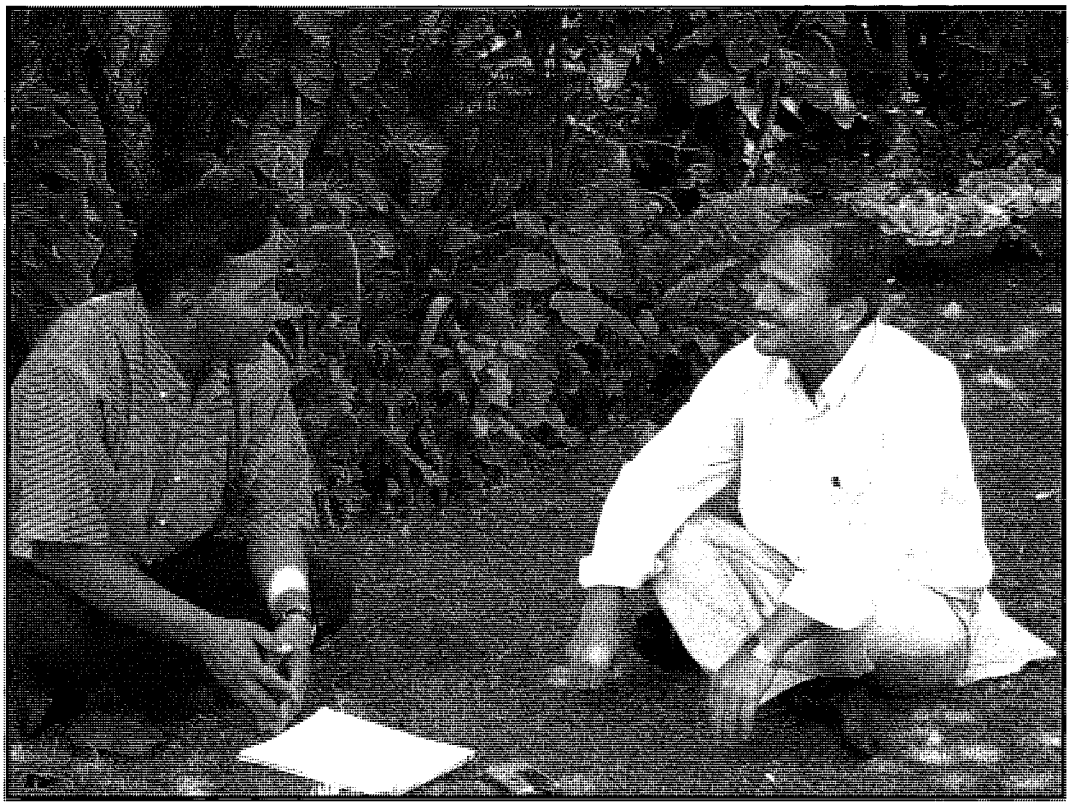
The qualitative research tool 'TAMS Analyzer' (http://tamsys.sourceforge.net/, Accessed 15 February 2005) was used to manage summarised transcriptions of expert interviews and to support analysis. The rest of the data was analysed as described in the Table 2.4, as commonly applied by the researchers of Development Study Group, Zürich (Toccoli 2004; Locher 2006; Thieme 2006).

Table 2.4: Data Analysis Steps and Procedures

Steps	Procedures
Organisation	• Transcribed audio cassettes, typed field notes, and arranged data corresponding to its sources • Read, re-read and edited digital information to become familiar with data and reflect on its overall meaning
Categorisation	• Generated coding categories and quotations paragraph by paragraph • Coded data was divided into smaller categories based on themes, concepts, patterns and arguments • Revisited interviews and marked concepts, themes, and arguments each time they occurred in interviews • Contested the categorised data with reflection on conceptual framework, i.e., ICDPs • Identified the salient and grounded categories of meaning
Coding	• Read all transcriptions and typed notes carefully to understand underlying meanings, and jotted down ideas as they came to mind • Made list of topics, and clustered together similar topics to reduce total list of categories, but still found interrelationships (e.g., biodiversity, livelihoods and local capacity) • Abbreviated topics as codes and wrote the codes next to the appropriate segment of the text • Prepared final category and alphabetised the codes with colour markings • Assembled the data material belonging to each category in one place (table forms) and performed a preliminary analysis • Recoded some data with the new categories that emerged from preliminary analysis
Description	• Evaluated and developed an understanding of the positive or negative instances of patterns and the usefulness of the data in relation to issues being investigated • Came up with overall descriptive explanations of the case study through the examination of each data category, which allowed me to compare what different people said, what themes were discussed and how concepts were understood
Representation	• Critically challenged the very permanent patterns which emerged in data and the linkages among them to reflect on the multiple realities of the world view, as well the ICDP assumptions • Alternative explanations were used to describe the most plausible explanations of the case study, and/or ICDP weakness and assumptions
Interpretation	• Writing this thesis was part of the analytic process of lending shape and form and meaning to the raw data and presenting the data meaningfully • Writing was influenced by my personal view, as the choice of words to summarise and reflect the data and interpret their meaning was subject to individual background (e.g., personal, academic and work experience) and world view

Source: complied based on Rubin and Rubin 1995, Marshall and Rossman 1999, Creswell 2003 and own research methods

Photo 2.1: Interview with KCAP Staff



3. THE EVOLUTION OF PROTECTED AREAS AND ICDPs

This chapter is organised into three main sections to provide an up-to-date account of global nature conservation initiatives. The first section briefly presents an overview of nature conservation approaches and describes the development of protected areas (PAs). The second section defines people-oriented approaches to conservation, widely known as Integrated Conservation and Development Projects (ICDPs), and discusses the pros and cons of such approaches, particularly in the context of developing countries. The second section also points out the key emerging challenges associated with ICDPs from the standpoint of making the approach more effective and efficient in reconciling biological diversity conservation objectives with local community development needs. In the last section, a brief conclusion is drawn from the literature reviewed to set the context for the analysis of my research results. The results are analysed in the chapter seven followed by conclusion in the chapter eight.

3.1 Protected Area Development

Unlike in the past when indigenous people were evicted from their homelands during the creation of protected areas (Müller-Böker 1991; Stevens 1997a; Straede and Helles 2000), today local people are regarded as conservation partners and a large number of them live within protected areas (Gurung 1996; Colchester 1997; McNeely 1997; Chape et al. 2003; IUCN/WCPA 2003a, 2004). The rhetoric of bringing people into mainstream conservation emerged strongly after the mid 1970s, when conservationists who failed to involve local people[1] faced difficulties (both practical and social) in establishing and managing protected areas, despite the worldwide driving conservation force following the Yellowstone model (Stevens 1997b; Kollmair et al. 2005). Thus, in recent years, integrating people and their livelihood[2] dimensions into nature conservation, while managing protected areas to achieve long-term conservation objectives, has not been just a matter of choice, but a ground reality (Chape et al. 2003; Scherl et al. 2004). In response to this reality, the concept of Integrated Conservation and Development Projects (ICDPs) was adopted by conservation organisations like the World Wildlife Fund (WWF) in the mid 1980s in form of projects (Bunting et al. 1991; Gurung 1998; Hughes and Flintan 2001). This community-based approach to conservation has proven successful in many cases (Keiter 1995; Bajracharya et al. 2005). ICDPs were

1 The term 'local people' refer to a heterogeneous population (with reference to age, gender, ethnicity, caste, social status, power relations) residing at a specific locality.

2 As per Chambers and Conway (1992, p.9) "A livelihood comprises the capabilities, assets and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base." Also see DFID's Sustainable Livelihoods Guidance Sheet (DFID 2002) (Also see http://www.livelihoods.org/SLdefn.html, Accessed 16 July 2006).

viewed as a radical divergence or paradigm shift from protectionists approaches and attempt to address some of the shortcomings of, and challenges faced by, the 'fines and fences' approaches to nature conservation (IUCN/WCPA/WWF 1994; McNeely 1997; Hughes and Flintan 2001; McShane and Wells 2004). ICDPs aim to reconcile conservation objectives with societal needs (Salafsky and Wollenberg 2000; Worah 2000; Hurni and Ludi 2000; Brechin et al. 2002; Wells et al. 2004).

Humans have continued to evolve and have shaped the Earth's landscape for thousands of years (Bernbaum 1996; Ghimire and Pimbert 1997; Colchester 1997). Efforts to protect natural areas date back to Babylonian times (2000 BC) when the first forestry laws were formulated. The relationship between nature and humans was formally contested in the Western world in the early 19th century when conservation became an autonomous activity, separate from the utilitarian management and exploitation of recourses. The combination of " ... [an] increased consciousness of anthropogenic disturbance of nature and an idealistic social construction of nature itself led to a movement to preserve supposedly wild or pristine regions" (Kollmair et al. 2005, p.5). Recognition of the aesthetical value of pleasing landscapes and the notion of preserving pristine or wild natural areas paved the way for the establishment of the world's first National Park, Yellowstone, in the United States of America in 1872. Human habitation inside parks and the consumptive use of park resources was considered incompatible with preserving and maintaining nature's inherent 'wilderness' and untouched state, despite the fact that local inhabitants have been using these areas for centuries (Colchester 1997; Stevens 1997a).

The strict nature protection paradigm or protectionist approach (Pimbert and Pretty 1997a, 1997b) often referred as the 'Yellowstone model' (Stevens 1997a) emphasises preserving pristine environments for the reverence of nature, human recreation and scientific purposes. As a consequence, many local inhabitants were evicted when their homes became parks, and continue to be denied the use of the natural resources (Colchester 1997; McLean and Straede 2003) that they managed for centuries, ignored by many conservationists. In many respects, the protection of nature by local people has become a source of suffering or cost (Alcorn 1993), instead of being recognised and rewarded, even though efforts have been made recently through people-oriented conservation to relieve people living in and around protected areas from the tyranny of conservation.

The underlying ideas, concepts and rationale behind the Yellowstone model have established a long-term foundation for protected area development (Stevens 1997a; Neumann 1998), giving birth to thousands of national parks and various forms of protected area systems all over the world (IUCN 1994; Chape et al. 2003). Today, 12.65% of the Earth's surface remains under some form of protection (Chape et al. 2003). Non-marine protected areas alone cover 11.1% of the Earth's land surface, which is more than the total percentage of arable land (9.6%) (Kollmair et al. 2005). This substantial growth in the number of protected areas and their coverage is due, not only to mere conservation rhetoric and values per se, but also to the wider role of protected areas in the provision of ecosystem services and sustainable development (McNeely 1998; Scherl et al. 2004).

3.1.1 Categories and Global Coverage

As stated earlier, the concept of managing protected areas has changed over time as conservation approaches have evolved from the protectionist paradigm of the past to a people-oriented approach in recent years. This evolution is well reflected in the scientifically defined categories of protected areas formulated by the World Conservation Union (IUCN) and the inclusion of protected areas in the United Nations List of Protected Areas between 1962 and 2003. Nevertheless, the universally recognised definition of a protected area has remained the same since it was adopted by IUCN in 1994. The IUCN (1994) defines[3] a protected area as:

> *An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.*

The IUCN definition of protected areas firmly stands for protection, leaving little room for the sustainable utilisation of park resources by local inhabitants beyond the subsistence level. The primary goals of protected areas—to conserve biological diversity and provide ecosystem services—are unlikely to be realised unless protected areas become more relevant to broader national development strategies and the rights, needs and aspirations of local people (Wilshusen et al. 2002; Scherl et al. 2004; Pimbert 2004).

To date, the IUCN has come up with six protected management area categories, each defined based on their primary management objective (Table 3.1). It is clear from the management objective and definition of each category that some protected areas (e.g., Category I and II) are more strictly protected against human consumptive use than others (e.g., Category V and VI). Indeed, the different categories are designed to facilitate various ecological processes and human consumptive use patterns, intending to serve a wide range of stakeholder interests.

3 The current definition of a protected area, which is used as the basis for inclusion in the UN List of Protected Areas, was adopted by the IUCN at the 1992 World Parks Congress. The definition does not include a size restriction. A minimum of 10km2 or 1km2 in the case of islands was applied previously (Chape et al. 2003, p.2).

Table 3.1: IUCN Protected Area Management Categories, Objectives and Definitions

Category	Objective	Definition
CATEGORY Ia: Strict Nature Reserve	Protected area managed mainly for science	Area of land/sea possessing some outstanding or representative ecosystems, geological or physiological features and/or species, available primarily for scientific research and/or environmental monitoring.
CATEGORY Ib: Wilderness Area	Protected area managed mainly for wilderness protection	Large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural conditions.
CATEGORY II: National Park	Protected area managed mainly for ecosystem protection and recreation	Natural area of land and/or sea, designated to (a) protect the ecological integrity of one or more ecosystems for present and future generations, (b) exclude exploitation or occupation inimical to the purposes of designation of the area and (c) provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.
CATEGORY III: Natural Monument	Protected area managed mainly for conservation of specific natural features	Area containing one, or more, specific natural or natural/cultural feature, which is of outstanding or unique value because of its inherent rarity, representative or aesthetic qualities or cultural significance.
CATEGORY IV: Habitat/Species Management Area	Protected area managed mainly for conservation through management intervention	Area of land and/or sea subject to active intervention for management purposes so as to ensure the maintenance of habitats and/or to meet the requirements of specific species.
CATEGORY V: Protected Landscape/ Seascape	Protected area managed mainly for landscape/seascape conservation and recreation	Area of land, with coast and sea as appropriate, where the interaction of people and nature over time has produced an area of distinct character with significant aesthetic, ecological and/or cultural value, and often with high biological diversity. Safeguarding the integrity of this traditional interaction is vital to the protection, maintenance and evolution of such an area.
CATEGORY VI: Managed Resource Protected Area	Protected area managed mainly for sustainable use of natural ecosystems	Area containing predominantly unmodified natural systems, managed to ensure the long-term protection and maintenance of biological diversity, while providing at the same time a sustainable flow of natural products and services to meet community needs.

Source: IUCN 1994

The 2003 United Nation's List of Protected Areas includes 102,102 protected areas covering 18.8 million km^2. Of this total figure, only 68,066 protected areas fall into the IUCN protected area management categories and 4,633 sites are internationally designated. The criteria for the inclusion of protected areas in the UN list has itself been an evolving process since its inception in 1962. The criteria has changed from the earlier strict nature preservation model to encompass recent sustainable utilisation objectives and values relevant to the 21st century (Scherl et al. 2004; McShane and Wells 2004). The UN list includes all protected areas (including many privately owned reserves) that meet the IUCN protected area definition, regardless of size and assignment of management category (Chape et al. 2003). However, the 2003 UN List of Protect Areas is still subject to a number of limitations (ibid). For instance, the size of 23,428 smaller sites is unknown; the establishment date of 48,654 sites is unknown; IUCN categories have not been assigned to 34,036 protected areas; and many privately owned areas are not included in the list. Similarly, the geographical boundaries (polygons) of 74,512 protected areas are unavailable and duplication is caused by language translation as well as the multiple designation of some geographic sites.

Table 3.2: Summary of Global Number and Extent Coverage of Protected Areas

IUCN Category	Number of Sites	Proportion of Total Number Protected (%)	Area Covered (km^2)	Proportion of Total Area Protected (%)
Ia	4,731	4.6	1,033,888	5.5
Ib	1,302	1.3	1,015,512	5.4
II	3,881	3.8	4,413,142	23.6
III	19,833	19.4	275,432	1.5
IV	27,641	27.1	3,022,515	16.1
V	6,555	6.4	1,056,008	5.6
VI	4,123	4.0	4,377,091	23.3
No Category	34,036	33.4	3,569,820	19.0
TOTAL	**102,102**	**100**	**18,763,408**	**100**

Source: adopted from Chape et al. 2003

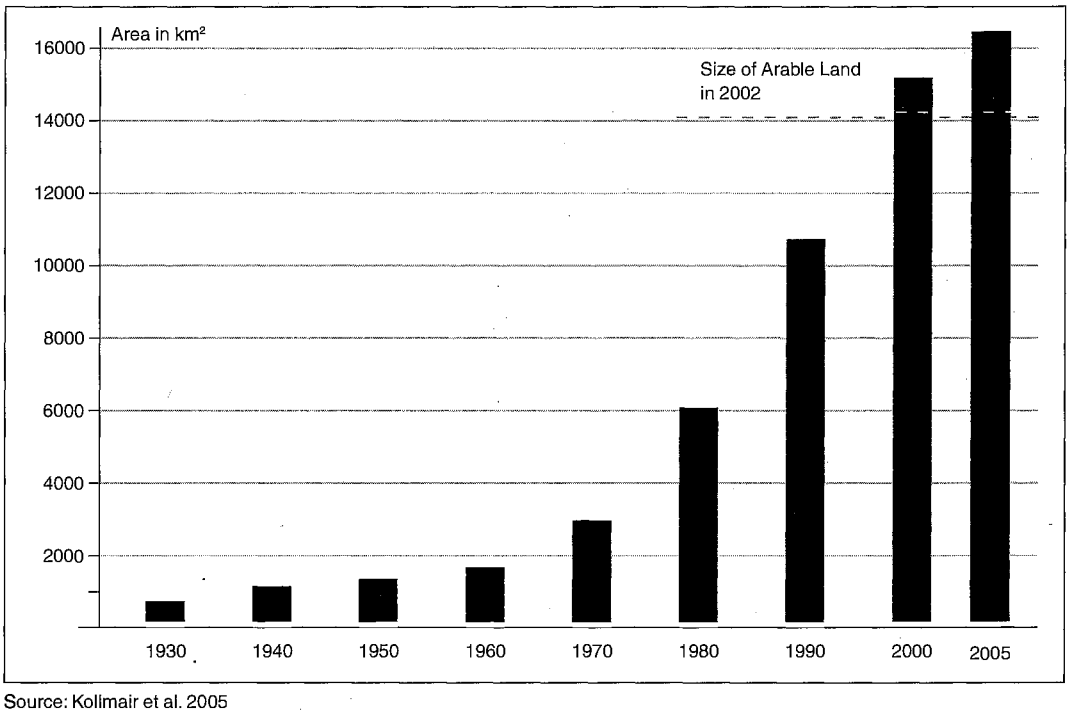
The global coverage of IUCN categories of protected areas can be established from the number of sites and their coverage area (Table 3.2). In terms of sites, the highest number fall within Categories III (Natural Monument) and IV (Habitat Species Management Area) and comprise about 47% of all protected areas. The reason for this is simply that, in the past, small areas were often assigned to these two categories, especially to Category III. The remaining Categories (Ia, Ib, II, V and VI) altogether represent only 20% of the total number of protected areas. However, if the categories are compared by area of coverage, the picture changes drastically with Category II (National Parks) and Category VI (Managed Resource Protected Area) comprising 47% of all protected areas. This is understandable, as national parks have traditionally been established to protect larger areas at the ecosystem level, and Managed Resource Protected Areas (the most recent category) was developed in response to community-based conservation approaches. Category VI is the latest

innovation in the IUCN protected area management category system, which recognises the aspirations and needs of local people and the important role that protected areas play in the sustainable livelihoods of local inhabitants, and vice versa (Chape et al. 2003; Scherl et al. 2004). Category VI has the second largest coverage area, after national parks, and more areas are likely to qualify for future inclusion in this category as many sites have not yet been presented for inclusion by formal protected area authorities (Chape et al. 2003).

3.1.2 Global Development Trends

The growth of protected areas has varied at different times in history. Protected areas grew very little between 1872 and 1920; slowly from the mid 1920s to the late 1950s; rapidly between 1960 and the 1970s; and exponentially since the late 1970s leading to a bubbling of protected areas worldwide between 1990 and 2003 (Harrison et al. 1982; Chape et al. 2003; Kollmair et al. 2005). The number of protected areas increased, from just over 9,000 sites in 1962, to over 48,000 sites in 1992 and to 102,102[4] sites by 2003 (Chape et al. 2003). In fact, total protected area coverage (18.8 million km^2) is greater than the combined land area of China, South Asia and South America (Chape et al. 2003) and also exceeds the figure for total arable land (9.6%) (FAO 2005). Terrestrial protected areas cover about 17.1 million km^2, whereas marine protected areas cover only 1.64 million km^2 (Chape et al. 2003); therefore, additional protection in marine biomes seem probable.

Figure 3.1: Global Protected Area Growth Between 1930–2005



Source: Kollmair et al. 2005

4 Of the 102,102 protected areas recorded in the 2003 UN List of Protected Areas, 59,478 (58.25%) are less than 10km2 in size. Sites less than 10km2 in size did not qualified for inclusion in previous UN lists (Chape et al. 2003, p.22).

Protected area growth is continuing in contradiction to the widely held view that opportunities to establish protected areas have decreased. The rapid expansion of protected areas exceeds even the aspirations of international conservationists in early 1990s who expected protected areas to grow to only 10% of land surface by the year 2000 (Thorsell 1992; McNeely 1993). The reasons behind such unexpected growth are mainly: worldwide awareness raising of environmental issues since the 1970s (Club of Rome till Rio Conference); the institutionalisation of global conservation regimes (an increasing set of institutions like IUCN, WWF and UNEP and financing mechanisms like the GEF [the Global Environment Facility] dedicated to conservation); and the paradigm shift from strict nature protection to people-oriented conservation approaches (Ghimire and Pimbert 1997; Philips 2003) including broadening the definition of protected areas.

The biosphere reserve approach to conservation has also contributed to the growth of protected area networks, as the approach serves the interests of conservationists as well as sustainable development needs (UNESCO 2001). In many respects, the demarcation of protected area systems in core, buffer and sustainable use zones (under the biosphere reserves approach advocated by UNESCO) aims to serve both the needs of biological diversity conservation and the sustainable livelihoods needs of the local people living in and around these protected areas (Silvia 2003); even though such an approach is difficult to implement.

The growing global recognition of the importance of protected areas and their linkage with broader environmental and sustainable development issues is mirrored in the adoption and implementation of the Convention on Biological Diversity (CBD), and other international and regional environmental agreements, and the use of protected areas as an indicator for the Millennium Development Goals. The recognition of the 'aspirations of local people' in protected area management in 1982 at the IIIrd World Parks Congress held in Indonesia; the adoption of the 'participatory conservation approach' in 1992 at the IVth World Parks Congress held in Venezuela; and the highlighting of the 'role of protected areas in poverty reduction' in 2003 at the Vth World Parks Congress held in South Africa, all demonstrate the widening scope of protected areas in biological diversity conservation and sustainable development (IUCN 1998; McNeely 1998; Chape et al. 2003; Scherl et al. 2004).

Protected areas are developed primarily to conserve nature, which is considered central to the wellbeing and continued existence of diverse ecosystems and species, including humans (IUCN/UNDP/WWF 1991; Chape et al. 2003). The changes in the IUCN categories over time, and the current protected area management approaches, clearly signal a global conservation trend towards more participatory conservation (Wells et al. 2004; Kollmair et al. 2005). From a conservation perspective, global protected areas are the finest legacy one can leave to future generations to ensure that they have access to all forms of physical, aesthetic and spiritual wealth possessed by nature (IUCN 1994).

3.2 Integrated Conservation and Development Projects

The authors of the literature reviewed in this section are among the most prominent in participatory conservation, and have empirically and periodically examined ICDPs since people-orientated conservation approaches were first applied in the 1980s. Accordingly, this section reflects the state of the art of people-oriented conservation approaches.

Protecting biological diversity with the participation of local people, whose livelihoods are dependent upon the utilisation of natural resources and/or impacted on by conservation measures, remains a highly challenging and contested objective (Brown 2003a). With the increasing number and size of protected areas and changing societal needs, concerns have been raised and efforts are constantly being made to find ways to balance the livelihood needs of local people with that of biological diversity conservation (KMTNC/ACAP 1998; DNPWC/PPP 1999; TMI 1999; UNDP 2001; CARE/Nepal 2001; WWF-NP 2001c). The key question is: *How to enhance the livelihoods of local people without compromising the long-term protection of biological diversity*? Or, put another way: *How to strike a critical balance between nature conservation and human consumptive use?* The answer to this question is sought in people-oriented conservation approaches (Pimbert and Pretty 1997a, 1997b; Salafsky and Wollenberg 2000; Brechin et al. 2002; Brown 2003b; Wells et al. 2004), which largely bank on meaningful community participation[5] (not just involvement) in natural resource management to achieve a balanced nature conservation and sustainable community development outcome (Frank and Blomley 2004; WWF-NP 2005b). People-oriented conservation approaches emphasise the enhancement of the livelihoods of the people living in and around protected areas (i.e., they address poverty issues in developing countries) (IUCN/WCPA 2003a, 2003b, 2004; Scherl et al. 2004).

3.2.1 Definitions and Assumptions

Despite two decades of ICDP implementation and research in all parts of the world, there is still no universally accepted definition of the concept that delineates it from other conservation approaches, such as a set of guiding principles and strategies commonly adopted and applied in ICDP interventions (Hughes and Flintan 2001). Likewise, there is little agreement on the interpretation of the approach, which is lacking clarity in terms of 'what' should be reached and 'how' set objectives should be achieved (Salafsky and Wollenberg 2000; Jeanrenaud 2002). However, there are considerable commonalities in terms of the broad twin objectives of the approach—conservation and development—and intervention typology (Table 3.3) and the underlying assumptions of the approach (Box 3.1) are common among practitioners and researchers alike.

ICDPs fall into the broad framework of 'people-oriented' approaches, a term also used to refer to community-based conservation, community-based natural resources management, extractive reserves and wildlife utilisation (Salafsky and Wollenberg 2000; Adam and Humle 2001; Brown 2003b). It is a rather generic term, covering policy and project interventions

5 See definition and Typology of Community Participation by (Arnstein 1969, p.217; Pimbert and Pretty 1997a, pp.309-10; Table 2.1).

that claim to simultaneously safeguard the welfare of people and nature (Jeanrenaud 2002). In a practical sense, ICDPs are seen as natural resources management tools applied in areas of biodiversity hotspots (mainly protected areas with people) in an attempt to reconcile the socio-economic development and biodiversity interests of concerned stakeholders (Hughes and Flintan 2001; CDC 2002). Worah (2000, p.5) defines ICDPs as "an approach that aims to meet social development priorities and conservation goals, and therefore is based on linkages between the social setting and the natural environment". In relation to people-oriented conservation approaches, Brechin et al. (2002, p.44) states that " ... [a] process that by which nature protection is carried out must be ecologically sound, socially and politically feasible, and socially just". Both definitions broadly cover social and ecological processes and the relationship between nature and humans, but lack clarity. The most recent working definition of ICDPs jointly proposed by CARE, UNDP and WWF is:

> *An approach to the management and conservation of natural resources in areas of significant biodiversity value that aims to reconcile the biodiversity conservation and socio-economic development interests of multiple stakeholders at local, regional, national and international levels* (Wells et al. 2004, p.399)

While being broadly defined as a people-oriented conservation approach, the working definition of ICDPs has evolved from 'people involvement' in the early 1980s, to 'inclusive participation' in more recent years (Hughes and Flintan 2001). In other words, ICDPs have evolved from simply integrating community development needs into conservation strategies, to actively partnering with local people to achieve sustainable conservation and community development. These changes highlight the response of conservationists and their institutions to worldwide development discourse, while also reflecting the site specificity of ICDPs and the positive experiences of decentralised resource management approaches in achieving both development and biodiversity objectives (Larson et al. 1998; Hughes and Flintan 2001).

The definition of people-oriented conservation approaches is so broad that it is becoming indistinguishable from other integrated sustainable (e.g., rural) development projects and/ or approaches—except that ICDPs are located and applied in protected areas (Oates 1995; Hughes and Flintan 2001). As a result, ICDPs are often perceived as development projects rather than integrated conservation interventions (Müller-Böker and Kollmair 2000). However, it is more than likely that such approaches will continue under this holistic or broad definition as conservation needs to serve the interests of a variety of stakeholders in specific contexts, which influences both the process and the outcome of nature conservation.

The broadly shared common assumptions and features of ICDP approaches largely determine the development, design and intervention strategies of conservation projects across the globe (Hughes and Flintan 2001). The assumptions and features summarised in Box 3.1 are drawn from a review of over 40 ICDP researches, which are also consistent with other conservation projects (Table 3.3) and the findings of Jeanrenaud (2002), who has extensively reviewed ICDPs implemented by the WWF network for the last 25 years.

Table 3.3: A Summary of Intervention Areas and Major Activities of ICDP

Intervention Area	Major Activities
Forestry	Management, nurseries and plantations
Wildlife	Monitoring, anti-poaching and livestock/crop depredation
Community infrastructure	Trails, bridges, drinking waters, schools, cultural (e.g., temple/ monastery)
Energy	Energy efficiency and alternative energy
Tourism	Tourism plans, trainings, services and local produce
Social mobilisation	Awareness, celebrations, study tours, skill development and CBOs
Health and education	Health posts, sanitation, formal & non-formal education, health camps
Agriculture	Livestock and crops (hybrids & income generating cash crops)
Gender and development	Women groups, income generation schemes and literacy
Research and publication	Biological, socio-economic and project documents
Protected area management	Staff training, infrastructure and management plans
Note: Various awareness-generating activities on conservation, gender, tourism and sustainable development are incorporated in each intervention.	

Source: KMTNC and WWF-NP annual technical project progress reports 1998-2005; UNDP/PPP and TMI/MBCP annual technical project progress reports 1998-1999; and UNDP Nepal annual project reports 2001; websites (Accessed 15 January 2006): www.mtnforum.org, www.icdbwindi.info, www.mountain.org/www.solutions-site.org/artman/publish, www.vita.org/projects/madagas.thm, www.wwf.panda.org, www.kmtnc.org.np/, www.wwfnepal.org, www.iucn.org/, www.undp.org.np/publications.htm

The overriding premise of all people-oriented approaches is that local people will participate in conservation endeavours when they perceive and/or receive benefits from the intervention, and that biodiversity losses can be minimised through community participation. In other words, the basic needs of people living in and around biodiversity rich areas must be met and benefit sharing mechanisms (including access/rights) need to be established to harness meaningful community participation in order to minimise the negative impact on biodiversity (Salafsky and Wollenberg 2000; CDC 2002). Most of these assumptions are primarily based upon time bound site-specific projects, rather than the wider ecological, socio-economic and political contexts that influence conservation outcomes (Pimbert and Pretty 1997a; Brechin et al. 2002; Brown 2003a). As a result, many ICDPs are perceived to have failed as they cannot show convincing results to prove their underlying assumptions.

Box 3.1: Underlying assumptions and common features of ICDPs

Underlying Assumptions

- Diversified livelihood options (e.g., alternatives to natural resource dependency) will reduce human pressure on biodiversity, leading to improved biodiversity conditions.
- Local people and their livelihood practices, rather than external factors, comprise the most important threat, or support, to the biodiversity resources of the area in question.
- ICDPs offer sustainable alternatives to traditional protectionist approaches to protected area management.

Common Features

- The primary goal of ICDPs is biodiversity conservation.
- The objective of ICDPs is to improve the relationship between state authorities and local communities.
- Projects attempt to address the livelihood needs of local communities, who might otherwise threaten biodiversity.
- Projects, mostly in developing countries, are usually funded and initiated by bilateral or multilateral donors and international conservation organisations, even though government bodies implement them.
- Projects do not necessarily seek to devolve ownership of protected areas to local communities or address this issue on the periphery of the parks.

Source: modified from Hughes and Flintan 2001

It is clear from the underlying assumptions and common features in Box 3.1 that ICDPs are primarily geared towards serving the interests of biological diversity conservation, and local people are viewed as a means of achieving the set objectives, rather than an end in themselves (Jeanrenaud 2002). The common features highlight the global and national dominance over local communities (Colchester 1997); even though the rhetoric of people-oriented approaches is 'bottom-up' (Bunting et al. 1991) and they incorporate components that aim to provide benefits to local people through a variety of activities (Pimbert and Pretty 1997a; Sanjayan et al. 1997).

Table 3.4: Summary of Assumptions, Activities and Challenges and Lessons Learned from Evolving ICDPs

Assumptions	Activities	Challenges and Lessons Learned
Unless the basic needs of people living in and around biodiversity-rich areas are met, they will not support (or will be hostile to) conservation efforts.	Social development activities: Building roads, water supply, schools, health centres and the sharing of park entrance fees.	• passive beneficiaries • lack of ownership • input intensive • unsustainable • conservation links unclear or non-existent
The impact of local communities on biodiversity can be mitigated by providing them with alternatives to natural resources-dependent livelihoods.	Alternative livelihood development: Agro-forestry, weaving, beekeeping, vegetable farming and other income generating activities.	• conservation & development links weak/not clearly addressed • loss of traditional knowledge/ management • de-linking livelihoods from natural resources weakens interest • failure of interventions due to inexperience
Local communities will use natural resources wisely if the link between the conservation of resources and their livelihoods is clear.	Value adding to natural resources that are harvested sustainably: Forest bee-keeping, NTFP collection and marketing, eco-tourism.	• policy/legal/market constrains (access/ tenure) not addressed • inadequate information on biodiversity/ impacts • inadequate benefit sharing mechanisms • internal conflicts
Communities will act to conserve resources if they have a stake in decision- making about the use and management of the resources.	Access and benefit sharing, multiple use zones, participatory planning and management (usually limited to specific areas/resources)	• policy/legal impediments (access/ tenure) • weak processes/limited experience • external forces/threats not addressed • stake too limited to be of long-term interest

Source: modified from Worah 2000

The ICDP challenges and lessons learned (Table 3.4) highlight a number of critical issues—such as local ownership over resources; the need for greater linkages between conservation and livelihoods; the need for policy reforms for benefit sharing; and the role of traditional knowledge and inclusive participative approaches in project design, implementation and evolution—that need to be addressed in order to make people-oriented approaches more effective and efficient in meeting social and nature conservation goals in protected areas. However, these issues are difficult to address through time bound ICDPs, as they inherit many problems in implementation due to a number of internal and external factors.

3.2.2 Key Emerging Challenges

Despite the significant progress being made in conservation in terms of the spatial coverage and the management regimes of protected areas (brought about by the paradigm shift from protectionist to people-oriented approaches and the introduction of ICDPs) (Chape et al. 2003; Kollmair et al. 2005), the academic debate on the complementary nature of, versus the conflict between, biodiversity conservation and human welfare continues (Pimbert and Pretty 1997a; Brandon 1998, Brandon et al. 1998; Brechin et al. 2002; Jeanrenaud 2002; Brown 2003b). The current debate is primarily centred on the effectiveness and efficiency of people-oriented conservation approaches in delivering both conservation and sustainable livelihood outcomes in protected areas (Borrini- Feyerabend 1997; Salafsky and Wollenberg 2000; Worah 2000, 2002; Brown 2003b; Wells et al. 2004).

Some critics of ICDPs call for a renewed emphasis on strict protection (Kramer et al. 1997; Redford et al. 1998; Redford and Sanderson 2000; Oates 1999); whereas others advocate for a critical assessment of the rhetoric of participatory conservation approaches in the light of social justice (Colchester 1997; Stevens 1997a; Pimbert and Pretty 1997a; Brechin et al. 2002). Furthermore, " ... [the] rhetoric of people-oriented approaches may be institutionalised to enhance material gains and public image, but not necessarily tied to change organisational procedures, resources allocations, incentives, professional skills and practice" (Jeanrenaud 2002, p.1). The growing criticism of ICDPs strongly indicates that the essence of ICDPs is yet to be internalised by conservation organisations, i.e., that local communities need to benefit from project interventions that conserve nature (UNDP/FPD 2000; Rosa et al. 2003). The ICDP criticism is also related to the participatory conservation projects being 'jacks of all trades, master of none' (Robinson and Redford 2004).

Some authors (cf. Salafsky and Wollenberg 2000; Worah 2000, Brechin et al. 2002; McShane and Wells 2004) state that the weakness of participatory conservation is mostly related to the failure of ICDPs to understand local communities as heterogeneous and equal partners. Many projects miss the link between conservation and livelihood options. They are often unable to create local ownership of resources; facilitate reasonable decision-making processes; understand the influence of external factors; judge the sustainability of projects; reform policies; or capitalise on local resources. Being input-intensive and short-term oriented also undermines the approach (Worah 2000; Hughes and Flintan 2001). The challenge is to find ways to adopt flexible and participatory measures which justly incorporate diverse stakeholder interests and build local institutions capable of dealing with dynamic ecological, socio-economic and political processes (Becker and Ostrom 1995; Ostrom 1990; Brown 2003b; Salafsky and Margoluis 2004). Therefore, current debates are primarily centred on how to bringing about success and efficiency in people-oriented approaches to deliver the intended conservation and community development results in protected areas (Salafsky and Wollenberg 2000; Brown 2003a, 2003b; Wells et al. 2004; Scherl et al. 2004), rather than on reinventing the wheel (Wilshusen et al. 2002).

Box 3.2: Main reasons for the failure of/problems within ICDPs and people-oriented conservation interventions

- The perception of local communities as homogenous, rather than heterogeneous (with social differences in gender, age, ethnicity, ideas and values), actors with different interests and power relations influencing access to, and control of, natural and projects resources, or who bear the costs and reap the benefits of protected areas.
- The treatment of local communities as passive participants (e.g., beneficiaries), rather than equal (albeit often junior) partners in projects; and failure to deliver benefits to marginalised groups.
- Failure to develop and implement reasonable processes for decision-making that take account of the different actors' (concerned stakeholders') interests, and that are legitimate, accountable and inclusive.
- The tendency for projects to be short-term (less than 5 years) in nature and over-reliant on expatriate (outside) expertise for development and implementation.
- Failure to apply a range of participatory tools in project design, implementation, monitoring and evaluation.
- The lack of a clear criteria by which to judge sustainability or success in meeting conservation and development objectives; and an inability to link conservation to sustainable livelihood strategies.
- A lack of understanding of the influence and dynamics of external factors (national, regional and global political, economic and social trends) and the origin of ecological processes.
- Failure to capitalise on and transform (e.g., an equity issue) traditional/indigenous knowledge and institutions and to identify how local institutions may represent the vested interest of elites; and/or inability to negotiate with powerful vested commercial interests and key government agencies that oppose community-based initiatives.
- Failure to build local institutions capable of dealing with dynamic ecological processes and socio- economic and political trends.

Source: compiled from Leach et al. 1999, Salafsky and Wollenberg 2000, Brechin et al. 2002, Jeanrenaud 2002

ICDPs still lack demonstrable notable successes and convincing cases that show the effective reconciliation of people's development needs with protected area management (Wells et al. 1999; Salafsky and Wollenberg 2000). Making ICDPs work has proven to be more challenging than marketing the concept and raising funds. However, many ICDP successes remain unproven due to a lack of rigorous monitoring, evaluation and critical analysis of baseline data to examine temporal impacts (Kremen et al. 1994; Lawrence 1997; Hughes and Flintan 2001). Others seem to have failed due to a combination of shortcomings as presented in Box 3.2. As ICDPs deal with both social and ecological issues and processes, which are influenced by various external and internal political, environmental and economic circumstances, they are subject to be challenged for at least two reasons. Firstly, researchers tend to examine and interpret the impacts based on their own interests—ecological or societal—in broad terms. Secondly, most ICDPs are evaluated without taking into account the influence of broader local, regional, national and international contexts. Often, political and economic treads impact conservation and social development more than the project interventions (Brown 2003b).

Among the many issues being raised, one of key concern is related to the sustainability of consumptive use or the 'alterative livelihoods approach' adopted by ICDPs. Two ICDP case studies focusing on the sustainable harvesting of game animals in Africa indicate that a point will eventually be reached when the growth of human populations around parks means that sustainable harvests can no longer provide satisfactory benefits on a cost per-capita basis (Salafsky 1994; Barrett and Arcese 1995). Experiences have also shown that the livelihood improvement of people living in and around protected areas (e.g., in buffer zones) ultimately leads to more pressure on natural resources, without any form of restriction (Larson et al. 1998; Oates 1999). For instance, economically attractive activities in the buffer zones have often created an incentive to expand resource use into core protected areas, even when prohibitions were made public (Salafsky and Wollenberg 2000). Concerns have also been raised about evidence that only a few internally funded ICDP interventions appear to be economically sustainable once external funding is exhausted (Hughes and Flintan 2001).

However, a pessimistic outlook on people-oriented approaches does not accurately represent the literature reviewed. There are grounds for optimism based on results demonstrated by integrated participative conservation projects such as in the Annapurna Conservation Area, Nepal (Bajracharya et al. 2005); the Bwindi Impenetrable Forest, Uganda (Wild and Mutebi 1997); the Ngorongoro Conservation Area, Tanzania (Stevens 1997a); the Crater Mountain Wildlife Management Area, Papua New Guinea (Johnson 1997); and the Ambora National Park, Bolivia (Smith et al. 1998), just to mention a few.

> *We can promote a policy shift toward authoritarian protectionism that would most likely alienate key allies at local, regional, and national levels and thus precipitate resistance and conflict. Alternatively, we can build on past experience and constructively negotiate ecologically sound, politically feasible, and socially just programs in specific contexts that can be legitimately enforced based on strong agreements with all affected parties* (Wilshusen et al. 2002, p.36).

Most authors suggest that conservation can not fully be understood in isolation from other political, social and economic factors, that shape both policy and practice, in both cases of restricted protectionist and people-oriented approaches (Ghimire and Pimbert 1997; Brechin et al. 2002). Therefore, ICDP assumptions that local people and their resources management approaches are the underlying cause of resources degradation may need to be examined in a wider context, as external factors (e.g., market demands) and vested interests (e.g., illegal logging and mining), by and large, influence conservation outcomes (Brown 2003b). These factors are often overlooked and avoided because they are considered too difficult to address (Hughes and Flintan 2001), even though they are the crux of the matter.

Under the continuing debate, it is generally agreed that both conservation policies and practices have considerably changed in the past two decades, and people-oriented approaches have been widely accepted and adopted (Humle and Murphree 1999; Adams and Humle 1998; Brown 2003b; Scherl et al. 2004). Humle and Murphree (1999) acknowledge three major shifts in the thinking and practices of people-oriented approaches, which they label as 'new-conservation'. These shifts include moving away from a state-centric focus to a community level focus; the re- conceptualisation of conservation based on ideas

of sustainable development, utilisation and ecology dynamics; and the incorporation of neo-liberalist ideas and market forces to make conservation pay.

In practical terms, protected area systems mean restrictions on the utilisation of natural resources in order to protect the biological diversity. Instantly and clearly, the impact is first felt at the local/site level, where the local people over night change from rightful owners and users into poachers and encroachers (Stevens 1997a; Colchester 1997), making the reconciliation between conservation and use extremely challenging (Ferraro 2002; Dovie 2003; Johannesen 2004). Most local people can relate conservation to their livelihoods in terms of the conservation of forests, water and useable plants and animals. However, they find it hard to understand the value of conserving wildlife such as elephants, tigers, snow leopards, monkeys and rhinoceros for the sake of their intrinsic natural value, as these wildlife threaten their livelihoods and lives, creating park-people conflict (Laidlaw 2000; Basnet 2002). This fact raises the following question*: Is wildlife more important than people?* In the field of protected area management, wildlife conservation is one of the most formidable tasks (Hatley and Thomson 1985; Bird and Metcalf 2003); even with a desirable level of community participation and wildlife-based tourism as an alternative livelihood (Colchester 1997; Müller-Böker 2000). Regular news reports, as well as scientific evidence, of livestock and crop depredation and loss of life caused by wildlife illustrates the harsh reality faced by local people in the conservation of biodiversity (Kharel 1997; Rao et al. 2002; Shah 2002).

In many respects, conservation interests appear to be more national and global interests—governed by biodiversity significance and protected by various international commitments[6] required to be fulfilled by state governments—rather than community interests (Guha 1997; PRISMA 2003; Zimmerer et al. 2004). In contrast, livelihood needs are grounded at the local level and based on the daily interaction between nature and local people for their subsistence living requirements. Therefore, meaningful reconciliation of these diverse interests and priorities is easier said than done, yet essential in order to cope with intensifying globalisation processes (UNDP/FPD 2000).

Realistically, there is little alternative to participatory conservation approaches, particularly for developing countries where the bulk of both the world's poverty stricken population and biodiversity exist, demanding a delicate balance. Seeking community participation in conservation is not only an issue of social justice (Brechin et al. 2002; Jeanrenaud 2002) and a pragmatic solution, there is also historical evidence that that human intervention is necessary and can play a critical role in managing ecosystems (e.g., grasslands) (Colchester 1997; Adams and McShane 1996). However, striking a critical balance between consumptive use and protection through ICDP interventions is extremely difficult in practice. For instance, if integrated projects delve deeply into livelihood issues, there is a great danger of losing focus on conservation and being trapped in the vicious circle of rural development. It is also equally challenging and unjustifiable to implement conservation interventions in isolation from the needs of local communities (Lewis 1996; Blaikie and Jeanrenaud 1997; Hurni and Ludi 2000).

6 States that are signatories to the following international instruments are required to act on their commitments by international law: IUCN category 1978 and 1994; Convention on Biological Diversity (CBD); Convention on International Treaty on Endangered Species of Flora and Fauna (CITES); TRAFFIC Regulations; and Climate Change.

3.2.3 The Future of ICDPs

As discussed earlier, people-oriented conservation approaches are being challenged and critiqued, largely for their inability to realise inclusive participation, establish clear linkages between conservation and livelihoods, utilise traditional knowledge and institutions and deliver quantifiable conservation impacts and equitable economic benefits to local people, in addition to being investment intensive to implement (Ghimire and Pimbert 1997; Pimbert and Pretty 1997a, 1997b; Worah 2000, 2002; Brechin et al. 2002; Pimbert 2004). Concerns are even being raised about the success of community participation in ICDPs (Cleaver 2001; Soliva et al. 2003), as many integrated projects are designed and implemented based on working hypotheses rather than on analytical data (Hughes and Flintan 2001).

Looking at the shortcomings of ICDPs (Table 3.4 and Box 3.2) and the suggested solutions (Box 3.3), there appears to be a need for a more pluralistic understanding of different forms of knowledge, values and worldwide views in order to inform conservation; facilitate the adoption of a deliberate inclusion process for deciding on and implementing conservation projects; and to transform conservation and local institutions to support a more dynamic, adaptive and integrated approach to conservation and development. The following ideas are primarily based on Brown's article (2003b) 'Three challenges for a real people-centred conservation'.

Box 3.3: Ways to make people-oriented approaches more effective

- **Create local ownership** over natural resources (often requires policy reforms in relation to access and rights) to provide a favourable environment for park-people interactions recognising that local people continue to use biodiversity resources even when stringent restrictions are in place.
- **Give preference to local knowledge and technologies** to promote greater self-reliance (thereby reducing outside dependency on goods and services); and enhance local capacity to adapt to dynamic social and ecological circumstances and maintain biological diversity.
- **Build local institutions and social organisations** and enhance their capacity to enforce rules, incentives and penalties crucial for conservation and the sustainable use of biodiversity.
- **Facilitate local participation** in the design, implementation, management and evaluation of conservation projects to enable a learning environment (and reduce internal conflict) where people and institutions (from beneficiaries to partners) interact and work together.
- **Adopt process-oriented, flexible project implementation approaches** to initiate and scale-up interventions compatible with participatory procedures and processes, and understand external forces and threats.
- **Build partnerships** at various scales and levels to leverage input intensive ICDP interventions and realise community-based management or co-management of protected areas
- **Adopt holistic approaches** (process and learning-centred) to integrated conservation and development projects to provide a mutual learning ground (for professionals/managers and locals) incorporating experience sharing mechanisms for a wide range of stakeholders.
- **Conduct regular research, monitoring and evaluation** to validate ICDP assumptions (e.g., linkages and success criteria) in relation to balancing conservation goals with sustainable livelihood needs, and inform stakeholders.

Sources: compiled from Pimbert and Pretty 1997a, Hughes and Flintan 2001, Brown 2003b, Pimbert 2004, Salafsky and Margoluis 2004, Wells et al. 2004

The first challenge is to find ways to integrate and apply different understandings of conservation and conservation values (in other words to apply a pluralist value system) when formulating conservation priorities and actions, to support conservation in many different ways, for example, the concept of traditional ecological knowledge in conserving sacred forests (Brown 2003b). However, while appreciating the role of traditional forms of knowledge and institutions in participative conservation (Colchester 1997), one should also assess their implications. There is evidence that traditional institutions (e.g., hierarchical kinship groups) can significantly constrain the participation of certain households and family members (Hughes and Flintan 2001; Haller 2002; Locher 2006) and negatively impact on integrated projects. Different forms of knowledge (e.g., scientific and traditional), and the interface between them (fusion knowledge[7]), enable different ways of 'understanding conservation' that can bring about innovations in natural resource management and present opportunities to develop new management practices essential for the effective management of protected areas (Agrawal 1995; Geiser 2002; Brown 2003b).

Within the framework of pluralistic values, the second challenge is to find fair and just ways of including the different values, knowledge and interests of the diverse stakeholders to ensure genuine people's (i.e., inclusive) participation in protected area management (Pimbert and Pretty 1997a; Geiser 2002; Brown 2003b) that can bring equitable benefits and contribute to sustainable conservation (Hughes and Flintan 2001; Brechin et al. 2002). This necessitates applying methods and tools (e.g., participatory planning and stakeholder consultations) for deliberate inclusionary processes that radically transform decision-making and management processes and provide room for collective learning and action (Geiser 2002; Brown 2003b). Such tools also enable to move beyond the passive and exclusionary form of participation currently being criticised while attempting to integrate conservation with development (Colchester 1997; Hughes and Flintan 2001; Brechin et al. 2002).

> *Without participatory, learning-centred approaches that support local livelihood interests in protected-area management, it is likely that conservation will further aggravate resources degradation, economic deprivation, social tension and loss of biological diversity* (Pimbert and Pretty 1997a, p.325).

The widest possible stakeholder participation can lead to more effective, equitable and legitimate decisions and to the empowerment of marginalised actors such as women (Leach et al. 1997, Leach et al. 1999). It is equally important to take into account the roles of conservation professionals (e.g., consultants and managers) because the success of community-based conservation projects also depends on their behaviour and attitudes and on their willingness to learn from local people and share experiences with a wide range of stakeholders (Pimbert and Pretty 1997a; Hughes and Flintan 2001). There is enough evidence that participative techniques encourage people to participate and enable settings to be more transparent, accountable, adaptive and learning process oriented (Worah 2000, 2002). Participative techniques also contribute to the transformation of patterns of resource

7 Fusion knowledge is defined as a form of knowledge that is " ... neither strictly local nor traditional, nor external or scientific" and may be most useful in developing locally appropriate and adaptive systems for managing diverse biological resources (Brown 2003b, p.90).

allocation and increase local community control over natural resources and decision-making processes (Brechin et al. 2002).

The sustainability of project interventions is highly dependent on local institutions[8] (Becker and Ostrom 1995; Hughes and Flintan 2001). Therefore, the third and final challenge is to create new institutions for conservation and development that are flexible and adaptable enough to manage complex ecological dynamics and accommodate the diverse interests and values of various stakeholders (Zimmerer 2000; Brechin et al. 2002; Brown 2003b). Many institutions fail to integrate conservation and development effectively. This is due to the complexity of ecosystems and their dynamics; uncertainty over future changes; factors such as irreversibility and resilience; and disturbances; as well as the involvement of different institutions with different objectives, interests, worldwide views and scales of operation (Pimbert and Pretty 1997a; Brown 2003a, 2003b).

Ecological and social complexities often undermine even successful people-oriented conservation initiatives, which benefit both the local people and biodiversity (Brown 2003b). Likewise, external forces such as markets and the differing world views of key actors in conservation and development (e.g., organisations like the World Bank as opposed to international conservation organisations) also influence how local institutions reconcile conservation with sustainable livelihoods needs because they have to link global interests with local development priorities (PRISMA 2003). Thus, conservation institutions have to evolve and adapt and be based on principles of social learning in order to show convincing results from people-oriented conservation interventions (Pimbert and Pretty 1997a). There is no quick fix (to reform policies, manage conflicts and devise trade-offs), as it takes time and resources to build institutions so that they can sustain conservation initiatives to continue to serve the interests of local people (Worah 2000). Many integrated conservation development projects often overlook institutional issues during design and execution (Brechin et al. 2002; Brown 2003b) due to pressure exerted by the demands of donors' 'project cycles' (Hughes and Flintan 2001).

3.3 Conclusion

Despite slow growth until the 1950s, protected areas have increased exponentially, both in number and size, since the 1970s, reaching a global coverage area beyond the expectations of many conservationists. However, future conservation initiatives should place more emphasis on the sustainable management of existing parks, instead of creating additional protected area systems, as the aim to conserve at least 10% of the most important land-biomes by the year 2010 has been fully achieved. Creating and recreating any form of protected area system, without effectively addressing both conservation issues and the sustainable livelihood needs of local inhabitants, may even jeopardise past efforts as resources are likely to be thinly spread, or invested to establish new protected areas,

8 The word 'institution', in its broadest sense, refers to the formal and informal rules that govern human behaviour, and the make up of formal constraints (rules, laws, constitutions) and informal constraints (norms of behaviour, self- imposed codes of conduct) and their enforcement characteristics (Becker and Ostrom 1995; Haller 2002; Brown 2003b).

undermining the management of the existing parks. Many existing protected areas in developing countries require constant external inputs or conservation projects, and are, therefore, likely to remain as 'paper parks' in the absence of long-term external investment and management strategies.

Along with the changes in global development discourse, conservation approaches are rapidly and significantly changed and changing. The future of protected areas as a means of preserving biological diversity, ecosystems and cultural landscapes will rest on a wide range of different approaches and strategies designed to reconcile and trade off the needs and priorities of global to local societies. With the growing recognition of people-oriented approaches, the management of protected areas in partnership with local communities is likely to gain importance in the coming years, despite power inequalities and politics which may impose serious constraints on the realisation of their full potential. Integrated and pluralistic understandings, with more innovative approaches to conservation, are essential to make people-oriented approaches more effective in bringing benefits both to societies and to biodiversity conservation. In fact, a positive outcome for people-oriented conservation is likely to depend very much upon the benefits that local people obtain from participating in conservation endeavours and their ability to effectively and efficiently manage natural resources and protect endangered floral and faunal species (DNPWC/PPP 1999; UNDP/ Nepal 2001; CARE/Nepal 2001; WWF 2005a).

The main challenge in conservation is 'how to manage' existing protected areas more effectively with real people-oriented conservation approaches (Brown 2003b; Kollmair et al. 2005) to achieve sustainable conservation solutions that are ecologically sound, feasible and socially just (Brechin et al. 2002). Indeed, people-oriented approaches are not a blueprint for nature conservation, but they offer one of the best alternatives to reconcile biological diversity conservation interests with the sustainable livelihood needs of local people residing in protected areas, provided that their shortcomings are overcome.

4. NATURE CONSERVATION IN NEPAL

The following chapter briefly introduces Nepal and outlines the state of its conservation efforts and experiences relevant to protected area development. Nepal is globally known for its concerted conservation efforts, which began with mega species and habitat protection, and has moved towards integrating sustainable livelihood issues into the conservation mainstream, transcending isolated protected areas and national political boundaries.

4.1 Nepal, a Country of Diversity

Nepal is a landlocked country, united in 1768, and located between two giant South Asian neighbours, China in the north and India in the south (Map 4.1). It lies between latitudes 26^0 22' and 30^0 27' north and longitudes 80^0 40' and 88^0 12' east. The average length of Nepal is 885 km east to west and the width varies between 145 km and 241 km from north to south, covering a total land area of 147,181 km^2. The country is well known for its majestic Himalayas, including the highest mountain in the world, Sagarmatha (8,848m), widely known as Mount Everest.

Map 4.1: Administrative Division of Nepal

Source: WWF-NP

Administratively, Nepal is divided into five development regions consisting of 14 zones, 75 districts, 3,915 Village Development Committees (VDCs) and 58 municipalities (CBS 2003). Each VDC has nine wards and the number of municipal wards ranges from 10 to 35 depending on population. This Himalayan country is home to over 26 million people, belonging to about 100 different ethnic and cultural groups (e.g., Brahman, Chhetri, Gurung, Limbu, Magar, Newar, Rai, Sherpa, Tamang, Tharu and many more), and of various religious faiths (e.g., Hindu, Buddhist, Muslim and Christian) (CBS 2003; Nepalnews.com 2006b). Nepal was known as the world's only Hindu Kingdom until parliament unanimously declared Nepal a secular state on 18 May 2006.

Nepal can broadly be divided into three physiographic regions—the Tarai (below 300m), the hills (300–3,000m) and the mountains (above 3,000m)—lying between the southern plains at less than 100m above sea level and the northern mountains at more than 8,000m above sea level (WWF-NP 2001d). The Tarai region constitutes about 18% of Nepal's most fertile land (WWF-NP 2001c) and is inhabited by 48.4% of the total population (CBS 2003). The hill region covers 48% of the total land and is physiographically characterised as the most diverse area with ridges and valleys. About 44.3% of the total population of Nepal live in the hills (ibid). The mountain region is the most sparsely inhabited with only 7.3% of the total population. Only 2% of the land in the mountain region is considered suitable for cultivation, even though it covers about one third of the total land area of Nepal.

Nepal is one of the least developed countries in the world, with a Human Development Index (HDI)[1] value of 0.526, and is ranked 136th out of 177 countries (UNDP/Nepal 2005). Over 40% of people live below the poverty line on less than US $1 per day. Despite poverty and a growing insurgency since the mid 1990s, conservation efforts are continuing steadily in Nepal, thanks to the commitment of international conservation organisations, donors and, most importantly, the local communities living in and around protected areas.

4.2 Biodiversity and the Role of Politics

This section briefly presents an account of Nepal's biological diversity and conservation efforts along with political developments that have influenced the development of protected areas and their management approaches.

> *Biological diversity means the variability among living organisms from all sources including, inter alias, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems* (UNEP 2005, p.1).

The combination of varied geographic and climatic conditions in Nepal has created unique habitats for floral and faunal diversity (Shrestha 1999; HMGN/MFSC 2003a). Over 29% of the total land area still remains under forest cover and over 18% of the country's land area

1 The HDI includes life expectancy at birth (e.g., 61.6 years), adult literacy (e.g., 67% for males and 35% for females), mean years of schooling and purchasing power parity (e.g., GNI per capita US $240 and GDP per capita US $1,420). Sources: (CBS 2003; UNDP/Nepal 2005).

is strictly managed under protected area networks; despite the high dependency of the rural population on natural resources for subsistence livelihoods. Nepal's floral diversity is represented by 118 ecosystems, comprised of 75 types of vegetation and 35 forest types. To date, 341 plant species and 161 animal species have been reported as endemic to Nepal (HMGN/MFSC 2003a).

Table 4.1: List of Floral and Faunal Diversity in Nepal

Floral Diversity		Faunal Diversity	
Species	**Number**	**Species**	**Number**
Lichens	465	Mammals	181
Fungi	1,822	Birds	852
Algae	687	Butterflies	640
Bryophytes	853	Moths	2,253
Pteridophytes	380	Fish	182
Gymnosperms	28	Amphibians	43
Angiosperms	5,856	Reptiles	100

Source: HMGN/MFSC 2003a

Since 1975, Nepal has been a member of the Convention on International Trade in Endangered Species of Fauna and Flora (CITES) and, therefore, many plant and wildlife species—including 15 vascular plants, 58 mammals, 40 birds, 13 reptiles, one amphibian and two insects—are listed by CITES and are strictly protected (HMGN/MFSC 2003a). Nepal has followed various international policies (e.g., IUCN's Red List) and conventions to protect its biological diversity.

Nature conservation in Nepal has been closely linked with the political environment in recent times (Chaudhary 2000; Bajracharya 2004). In general, the recovery of wildlife species and their habitats is positively correlated to the political stability of the country, and vice versa (Adhikari 2002). Nevertheless, the correlation is not always as Chaudhary (2000), Adhikari (2002) and Bajracharya 2004) suggest. There are cases of conservation success during the absolute autocratic Rana and Royal family regimes (Müller-Böker 1991, 1997) and democracy period in the early 1990s as well as the political instability after the mid 1990s (WWF-NP 2005b; Gurung 2006). Relatively undisturbed and malaria infested, the Tarai forests served the game hunting interests of the autocratic Ranas, who ruled Nepal between 1846 and 1950, and members of the Royal family thereafter (Müller-Böker 1999, 2000; Soliva et al. 2003). Formal conservation efforts in Nepal began with the enactment of the Wildlife Conservation Act 1958, which provided legal protection to the then only remaining rhinoceros population in Chitwan by creating a rhino sanctuary (Maskey 1997b, 1998).

The party-less political regime known as the *panchayat* system, introduced in 1962 by King Mahendra, lasted until 1990. This era was positive from a wildlife conservation point of view, as the interests and leadership role of the Royal family contributed to the adoption of

important policies including the establishment of protected areas (Sharma 2002 in Bajracharya 2004) and of the King Mahendra Trust for Nature Conservation (KMTNC) in 1982 (Sherpa et al. 1986). The success of the KMTNC's Annapurna Conservation Area Project (KMTNC/ACAP) has influenced national conservation policies and paved the way for community-based conservation initiatives in Nepal (Keiter 1995; Gurung 1998; Bunting et al. 1991; Bajracharya et al. 2005).

The 1990 democratic movement coincided with the global paradigm shift in conservation discourse and has contributed to the reorientation of Nepal's conservation endeavours towards more participative approaches (Keiter 1995; Soliva et al. 2003). Examples of such reorientation influenced by the political change include the Buffer Zone policy—whereby 30–50% of park revenue is shared with local communities—and the creation of 'conservation areas'[2], which had not been done since the mid 1980s. The KMTNC manages the Annapurna Conservation Area (ACA) and the Manaslu Conservation Area (MCA), and is planning to manage four additional protected areas[3], which was seen as more than likely to go ahead under the King's direct rule (1 February 2005 to 25 April 2006). However, the handing over of these proposed protected areas to the KMTNC is now very unlikely in the changed political environment since 25 April 2006, due to the King's diminished influence and role in national politics (Nepalnews.com 2006a). In fact, the policy favouring only protected area management take over by the KMTNC could undermine real community-based protected area management innovations (Brown 2003b) such as the Kangchenjunga Conservation Area (KCA) handover to the local community. Moreover, most of the KMTNC's conservation projects including the ACA have suffered heavily under the insurgency as the Maoists either destroyed or closed most of its field offices. The likelihood of the KMTNC managing protected areas effectively with local community and other stakeholders under the changed political scenario is less convincing than ever before.

4.3 Protected Area Development and Management Approaches

The modern protected area development approach in Nepal started with the National Parks and Wildlife Conservation Act (NPWCA) 1973, and the subsequent establishment of Nepal's first park, the Royal Chitwan National Park (RCNP). The RCNP was based on the traditional 'Yellowstone model' (Keiter 1995; Stevens 1997a), even though it was created a century later, which clearly indicates the influence of global conservation discourse on Nepal.

The NPWCA 1973 prohibits all 'consumptive use'[4] of park resources such as hunting and fishing, agricultural practices, the grazing of domestic animals, the building of infrastructures and mining, etc. Hence, protected areas are seen as the best possible opportunity and way to protect at least some representative samples of ecosystems in Nepal (Upreti 1985). The Department of National Parks and Wildlife Conservation (DNPWC) of the Ministry of Forests and Soil Conservation (MFSC) is responsible for managing protected areas and conserving biodiversity in Nepal.

2 Except for the status of the Makalu-Barun Conservation Area which was changed to a national park and buffer zone in 1991.
3 Rara National Park, Kosi-Tappu Wildlife Reserve, Phey-Phoksundo National Park and Shivapuri National Park.
4 The amendments to the NPWCA 1973 permit 20 days of annual grass-collection in Tarai protected areas.

Table 4.2: Evolution of Protected Area Management Approaches

Date	Protected Area Type	Protected Area	Management Approach	Managed by	Changes
1973	First National Parks	Royal Chitwan National Park	Protectionist	DNPWC	Local inhabitants relocated/evicted
1976	Mountain National Parks	Sagarmatha National Park	Protectionist	DNPWC	Subsistence use permitted
1986	First Conservation Area	Annapurna Conservation Area	Community-based	KMTNC	100% revenue sharing with community indirectly through KMTNC
1995	First Buffer Zones (project)	Royal Chitwan National Park and Buffer Zone	People-inclusive	DNPWC	30-50% park revenue sharing with local community since 1996
1998	Second-generation Conservation Areas	Kangchenjunga Conservation Areas	People-oriented	Community with DNPWC	KCA managed by local council since 2005 with support from WWF

Source: compiled from Soliva et al. 2003, DNPWC brochures/http://www.dnpwc.gov.np

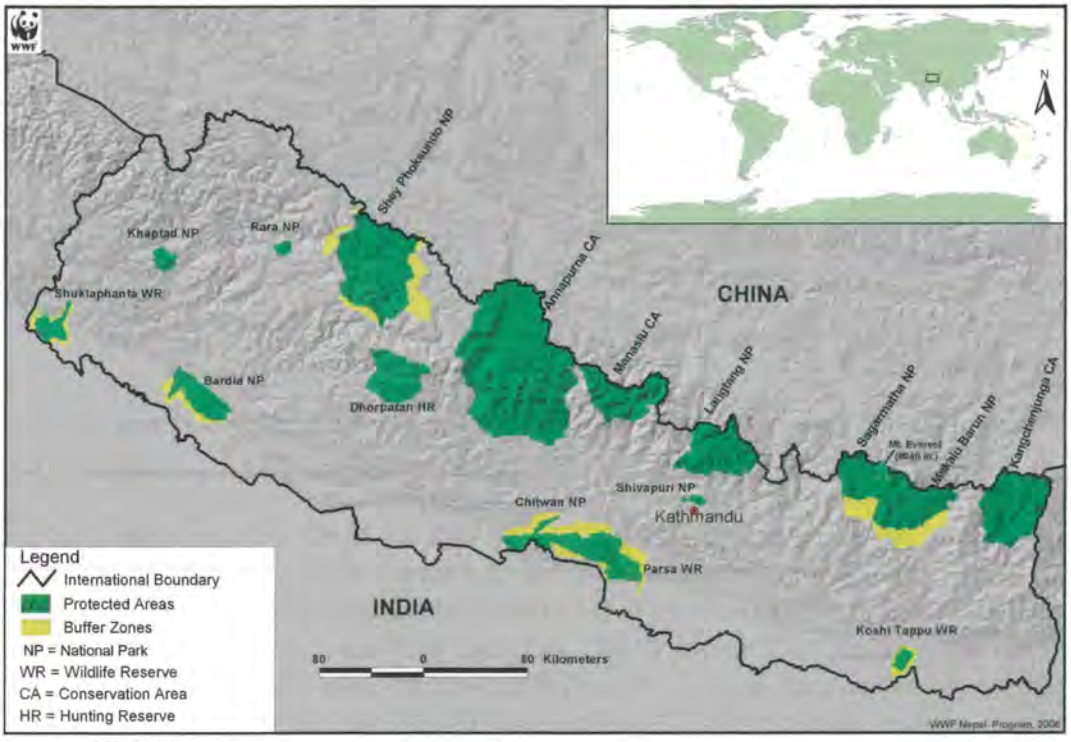
Many conservationists believe that a protectionist conservation approach was the best alternative for the initial stage of protected area development in Nepal. It is still relevant today in protecting endangered species, such as the greater one-horned rhinoceros (*Rhinoceros unicornis*), the Royal Bengal tiger (*Panthera tigris*), and the Asian elephant (*Elephas maximus*), and their habitats in Tarai parks and reserves. From a wildlife conservation point of view, the model has proved to be successful in bringing the rhinoceros population, from 147 animals in 1972, to over 612 by year 2000 (Adhikari 2002), and in establishing a second rhinoceros population in Royal Bardia National Park (RBNP) (Rijal 2000). The rhinoceros population in the RCNP plunged from 544 in 2000 to only 372 animals in April 2005 (WWF-UK 2005), followed by 12 more losses at the hands of poachers in May 2005 (Kantipuronline 2005a). The rhinoceros population in RBNP has suffered a similar fate. Along with rhinoceros, the populations of many endangered species, such as the Bengal tiger, snow leopards and musk deer, appear to be declining rapidly, since 2002, due to poaching (Bajracharya 2004; Kantipuronline 2005b; WWF-UK 2005). As a result, conservationists are now struggling to sustain past achievements in a climate of political instability and poverty in which biodiversity conservation remains a low priority, as compared with the urgent needs of peace and security and poverty reduction (HMGN/NPC/MOPE 2003).

The reduction in the number of Army posts, from 32 to 7, between 2001 and 2006, as a result of the insurgency, has contributed to the rapid decline of the rhinoceros population in Chitwan (Bajracharya 2004). The relationship between protection measures and the decline,

or recovery, of endangered wildlife species populations, at least in the Tarai parks, reinforces the rhetoric of strict protection and highlights the challenges in conserving endangered species with high black market values through participative approaches.

Nepal has an extensive protected area network that includes ten national parks (with buffer zones), three wildlife reserves, three conservation areas and one hunting reserve, established to achieve various conservation and social goals (Map 4.2; Table 4.3). The likelihood of creating new traditional national parks is minimal. One could imagine additional protected areas in the poorly represented hills (Heinen and Yonzon 1994; Shrestha 1999) of central and eastern Nepal. Conservation efforts since 1999 have been geared towards linking protected areas through a landscape approach, rather than creating additional protected areas (WWF-NP 2001c; HMGN/MFSC 2004).

Map 4.2: Protected Areas in Nepal



Source: WWF-NP

National parks and wildlife and hunting reserves are centrally managed and strictly protected with the Nepal Army (Royal Nepal Army until May 2006) (Müller-Böker 1999); whereas Conservation Areas are managed with the participation of local communities, without the Nepal Army (Gurung 1996; WWF-NP 2005b). Human settlements inside parks have been officially recognised since 1979, in the case of mountain national parks, in response to problems connected with the 1976 Rara National Park resettlement scheme (Soliva et al. 2003). However, relocation schemes have been carried out in Tarai protected areas in order to prohibit consumptive use of park resources; except in buffer zones where subsistence use is allowed. For instance, the relocation of thousands of people from the RCNP began in 1964 after the creation of the Rhinoceros Sanctuary and ended only in 1999 (Müller-

Böker 1999; McLean and Straede 2003). Similarly, many villagers in Parsa Wildlife Reserve were forced to migrate due to lack of access to natural resources (Budhathoki 2001; Bajracharya 2004). In many respects, buffer zones (BZs) are an extension of parks, rather than utilisation zones, designed to protect core park areas, as the Buffer Zone policy only allows controlled subsistence use of natural resources with the zone.

Table 4.3: Overview of Protected Areas in Nepal

PA Sites by IUCN Category	Year Gazetted	Park/Buffer Zone Area	Physiographical Zone	Main Establishment Objective(s)
A. Category II: National Parks				
1. Royal Chitwan	1973	932 km²/750 km²	Tarai-Siwalik	Wildlife conservation Tourism
2. Langtang	1976	1,710 km²/420 km²	Middle and high mountains	Soil protection Tourism Species protection
3. Sagarmatha	1976	1,148 km²/275 km²	High mountains	Landscape & species conservation Tourism
4. Rara	1976	106 km²	High mountains	Landscape & wildlife conservation
5. Shey Phoksumdo	1984	3,555 km²/449 km²	High mountains	Landscape & wildlife conservation Ecosystem conservation
6. Khaptad	1986	225 km²	Middle mountains	Conservation of religious heritage
7. Royal Bardia	1976/ 1988[5]	968 km²/328 km²	Tarai-Siwalik	Wildlife conservation Tourism
8. Makalu-Barun	1991[6]	1,500 km²/830 km²	High mountains	Species & biodiversity conservation Soil protection Tourism Research
9. Shivapuri	2003[7]	144 km²	Mid mountains	Watershed conservation
B. Category IV: Wildlife Reserves				
1. Royal Suklaphanta	1976[8]	305 km²	Tarai	Wildlife conservation
2. Koshi Tappu	1976	175 km²	Tarai	Wildlife conservation
3. Parsa	1984	499 km²	Tarai-Siwalik	Wildlife conservation
C. Category IV: Hunting Reserves				
1. Dhorpatan	1987	1325 km²	High mountains	Wildlife conservation for hunting

5 From 1996–1976 Hunting Reserve; 1976–88 Wildlife Reserve; National Park since 1988.

6 From 1992–2000 Makalu-Barun Conservation Area; National Park and Buffer Zone since 2000.

7 From 1976–1984 Watershed Reserve; 1984–2002 Watershed and Wildlife Reserve; National Park since 2003.

8 From 1965–1976 Hunting Reserve; Wildlife Reserve since 1976.

(contd.)

D. Category VI: Conservation Areas				
1. Annapurana	1986/ 1992[9]	7629 km²	Middle and high mountains	Conservation & development
2. Manaslu	1997/ 1999[10]	1663 km²	Middle and high mountains	Eco-tourism & development Environmental protection
3. Kangchenjunga	1997/ 1998[11]	2035 km²	Middle and high mountains	Biodiversity conservation Tourism Development

Source: Soliva et al. 2003, Kollmair et al. 2003, DNPWC brochures/http://www.dnpwc.gov.np

Nepal is one of the developing countries that is pursuing more progressive nature conservation polices (Keiter 1995; Mishra 1982; Gurung 1998). In the three decades since the enactment of the National Parks and Wildlife Conservation Act 1973, Nepal has successfully integrated local people's needs into protected area management, through innovative conservation projects and policy amendments[12] to the NPWCA 1973. Nepal has also shifted its conservation focus from species preservation to ecosystem protection (Keiter 1995).

In light of the progress made in integrating the livelihood needs of local people into mainstream conservation (IUCN/WCPA 2004; DNPWC 2005), Nepal has once again broadened the horizon of its conservation approaches by progressively moving away from 'island type' (e.g., protected area) protection to 'landscape level' conservation for the long-term conservation of globally significant biological diversity (HMGN/NPC 2002; Orians 2002; HMGN/MFSC 2003a). In other words, the latest conservation efforts in Nepal focus on connecting protected areas for trans-boundary and landscape level conservation (HMGN/MFSC 2003b; HMGN/MFSC 2004). The concept of landscape level conservation is primarily based on the 'global 200 eco-regions'[13] approach propagated by the WWF network (WWF-NP 2001c). The Tarai Arch Landscape (part of the eastern Himalaya ecoregion) project is such an initiative, presently being implemented by the Ministry of Forest and Soil Conservation in Nepal, with financial and technical support from WWF-NP, UNDP, KMTNC and a number of other stakeholders (HMGN/MFSC 2004). Likewise, the Sacred Himalayan Landscape initiative is in the design phase under government leadership, in collaboration with ICIMOD, TMI, WWF, and various conservation partners (HMGN/MFSC 2005b).

It is apparent that WWF, IUCN and KMTNC have played a major role in protected area development in Nepal, and their influence is likely to continue in the coming years. For

9 Project started in 1986, Gazetted as Nepal's first Conservation Area in 1992.

10 Project started in 1997, Gazetted as a Conservation Area in 1999.

11 Project started in 1998, Gazetted as a Conservation Area in 1997.

12 The National Parks and Wildlife Conservation Act 1973 has been amended six times up to 2000 in order to minimise park-people conflicts and achieve effective biodiversity conservation through local community participation. The main amendments are: Mountain National Parks Regulations 1979; Conservation Area Regulations 1995 (KMTNC managed); Buffer Zone Regulations 1996; Conservation Area Management Regulations 2000 and Kangchenjunga Conservation Area Management Regulations 2005 (draft/community-managed).

13 The Global 200 is a science-based global ranking of the Earth's most biologically outstanding terrestrial, freshwater and marine habitats. It provides a critical blueprint for biodiversity conservation at a global scale. (http://www.panda.org/about_wwf/where_we_work/ecoregions/about/index.cfm, Accessed 10 July 2006).

instance, Nepal is at the final stages of transferring management responsibility of four national parks to the KMTNC and of the Kangchenjunga Conservation Area to the KCA Management Council. This is under the government's new policy that enables the MSFC/ DNPWC to hand-over the management of protected areas to NGOs and other selected institutions (HMGN/MFSC 2003c). The KCA management handover will mark the third major innovation in the history of protected area management approaches in Nepal, after the institutionalisation of the Annapurna Conservation Area and the declaration of buffer zones in national parks. The permitting of the subsistence use of resources in mountain parks, and the 20-day 'grass cutting' policy in Tarai parks, can also be seen as innovative ways to integrate human consumptive use into nature conservation in Nepal (Sharma and Shaw 1993). However, any use of park resources is highly contested, as the protected area resources are strictly protected by the state from human consumptive use (Müller-Böker 1999; Kollmair et al. 2003; McLean and Straede 2003). Nepal's varied protected area conservation approaches (Table 4.2) and networks (Table 4.3) have evolved over years in response to the need to reconcile global and national conservation agendas with the sustainable livelihood needs of local people living in and around protected areas, as practically as possible, from both societal and ecological standpoints.

4.4 The Future of Conservation in Nepal

Looking at the current and foreseeable social, economic and political transformations in Nepal, the biggest conservation challenge is to maintain the status quo of past achievements, and find innovative strategies to build on the successes of participatory conservation approaches, to achieve balanced conservation and sustainable livelihood outcomes. It is important to further strengthen participative approaches, which have the potential to address the multiple interests of stakeholders through negotiated settlements (Brown 2003a; Kollmair et al. 2003). In general, the causes of biological diversity loss in Nepal are mostly related to forest conversion, uncontrolled grazing in forests, unsustainable timber harvesting and wildlife killing or poaching (HMGN/MFSC 2004). Many of these causes are associated with migration and population growth; poor access to land (e.g., unequal land holding); lack of off-farm livelihood opportunities; inadequate access to/and management of forest resources; and cross-border issues. Hence, tackling these enormous challenges in order to safeguard biological diversity, especially in the context of landscape or eco- regional level conservation (HMGN/NPC 2004), will require a concerted effort and commitment from all concerned stakeholders (HMGN/NPC 2005b).

The regular poaching of endangered species, such as the one-horned rhinoceros and Bengal tiger, in recent years, highlights further challenges (Ghimire 2002; WWF-UK 2005). Besides poaching, endangered species are also perceived to be facing many external threats including infrastructure development and the ever increasing demand for land, forest and water resources (HMGN/MFSC 2003a). On the other hand, these conservation threats could open the door for conservationists to build stronger partnership with local people, the private sector and development organisations to address the challenges in more participative manner (HMGN/NPC 2004; Gurung 2006).

Tourism is being promoted as one of the most favoured strategies to address conservation issues and sustainable livelihoods needs in protected areas in Nepal, due to its potential economic contribution (Nepal 2000; Bajracharya 2004). However, the tourism industry is susceptible to global economic trends and the volatile security and insurgency situation. The issue of equitable benefits for local people also remains contested (Müller-Böker 1998; Nepal 2002). Even under the best scenario of tourism development, the protected areas that are less attractive to international visitors will lack political and financial support (IUCN 1994) and other resources necessary for their effective management; as well as for revenue sharing with local communities. Furthermore, the DNPWC has almost no influence over visitor inflow to protected areas, even though tourism development negatively impacts on protected areas (Keiter 1995). Since the year 2000, tourism growth in Nepal has been negative and visitor activities have mainly been confined to so-called 'safe areas' such as Sagarmatha National Park, the northern part of the Annapurna Conservation Area and the periphery of Royal Chitwan National Park.

As mentioned earlier, the Army has played an important role (especially in Tarai parks), in wildlife and habitat conservation, by protecting the parks from illegal settlers, timber smugglers, poachers, livestock grazing and public land encroachment (Shrestha 1999). Meanwhile, concerns have been raised regarding the role of the Army in terms of their cost effectiveness and efficiency in managing protected areas as well as their relation with local people (Müller-Böker 1999). Community-based approaches have proven successful in mountain conservation areas (Bunting et al. 1991), and the cost of Army protection accounts for up to 75% of the total parks and reserves (DNPWC) budget (Keiter 1995; Bajracharya 2004). This raises a serious question as to the role of the Army in the sustainability and efficiency of existing and future conservation endeavours. Nevertheless, the current escalation of poaching of endangered species in Tarai protected areas, since the withdrawal of the Army, clearly signals the need for some form of armed protection against poachers, if the survival of endangered species in Tarai protected areas is to be ensured. However, the community-based management of mountain protected areas, with technical and financial support from the Government of Nepal, as well as national and international conservation, development and research institutions, seem realistic. Investment could be made in local institutions, instead of in a large contingent of Army personnel and hundreds of park officials. The possible replacement of Army personnel with a small effective anti-poaching team (e.g., armed rangers) and a down-sized number of park officials could be a sustainable financing mechanism, for the community-based management of mountain protected areas, that don't attract enough visitors to generate revenue for conservation and development efforts.

The progressive conservation area and buffer zone policies of Nepal overlap with the Local Self- Governance Act (LSGA) 1998 (HMGN/MFSC 2003b), as the responsibility for natural resources management under the LSGA falls under the jurisdiction of the District Development Committees (DDCs) and their respective Village Development Committees (VDCs). This overlapping mandate over the ownership of natural resources has created a direct conflict between local governments and conservation organisations. Thus, there is an urgent need to resolve any legal conflicts and reform policies in order to bring about effectiveness and efficiency in natural resources management, in general, and in protected area management, in particular.

4.5 Lessons from Conservation in Nepal

The answers to the challenges of protected area management in Nepal seem to lie in enhanced community-based conservation approaches (Gurung 1998; Kollmair et al. 2003; Locher 2006). The experiences of the last three decades has demonstrated that local people living in and around protected areas need to be involved (Mishra 1982; Sharma and Shaw 1993; Müller-Böker 2000; CARE/Nepal 2001; Bajracharya et al. 2005), not only to reconcile park-people conflicts, but, interestingly, also to maintain anthropogenic disturbances of ecosystems for biological diversity (Ghimire and Pimbert 1997; Bank et al. 2003). Research also confirms that the degree of collaboration of local people in conservation is closely linked to the benefits that they receive from participation, and the ability of protected area management interventions to strike a critical balance between the protection and utilisation of natural resources (Keiter 1995; Heinen and Mehta 1999; Hurni and Ludi 2000; Hughes and Flintan 2001).

Table 4.4: Summary of Lessons Learned from Protected Area Development in Nepal

General Lessons	Project-Specific Lessons
• The Yellowstone model is not fully replicable in developing countries as the transferability is context specific. • Conservation policies can be transformed progressively within a decade or two with commitment from national governments, international conservation institutions and local communities. • Conservation success lies in ecosystem protection, rather than species preservation approaches. • The national conservation agenda can be pursued within a central regulatory framework that can be adapted to diverse local settings to involve people in resource decisions, revenue sharing and linking conservation with the needs of local people. • NGOs and foreign donors can play a major role in conservation efforts in developing countries where national governments lack commitment, the capability and resources. • Continued research (monitoring and evaluation) is required to reflect the ground reality.	• Successful pilot projects (e.g., ACAP) can influence national and international conservation approaches and policies. • People-inclusive conservation strategies should sensitively address the needs of marginalised (e.g., by gender, caste or ethnic group) local inhabitants. • People-inclusive conservation requires a multi-stakeholders approach (e.g., involving different government agencies, NGOs, the private sector and local communities). • Conservation projects must have a strategy for phasing-out from the beginning. • Conservation awareness plays an important role in protected area management. • Alternative livelihoods strategies should be linked to markets to minimise the dependency of local inhabitants on project inputs. • Local capacity and institutions need to be built and/or transformed to sustain project efforts.

Source: compiled from Mishra 1982, Bunting et al. 1991, Keiter 1995, Gurung 1998, Müller-Böker 1999, Hughes and Flintan 2001, HMGN/MFSC 2003b; Brown 2003a, Soliva et al. 2003, Kollmair et al. 2003, Bajracharya et al. 2005

The lack of community participation in the management of the Koshi-Tappu Wildlife Reserve turned the reserve into a grazing and cross-breeding (domestic and wild water buffalo) ground for thousands of domestic livestock, despite strict protection rules (Budhathoki 2001). Furthermore, biodiversity conservation of the Khaptad National Park/Buffer Zone is closely connected with human uses, particularly, the traditional forms of grazing (Soliva et al. 2003). Thus, further justification for participative conservation is relatively needless. But it is apparent that community- based conservation approaches or Integrated Conservation and Development Project (ICDP) strategies need to be improved in order to deliver balanced conservation and sustainable livelihood outcomes (Salafsky and Wollenberg 2000; Brechin et al. 2002; Brown 2003a; Wells et al. 2004) and to broaden the scope of people-oriented conservation approaches (HMGN/MFSC 2003b; Brown 2003b; Kollmair et al. 2005). Indeed, the lessons learned from protected area development models in Nepal mirror the evolution of modern conservation paradigms. Although Nepal had moved quickly from traditional to people-oriented conservation approaches within a decade (i.e., from RCNP to ACA), it has taken over two decades just to begin the process of handing over protected area networks to local institutions (KCA-MC 2005). Interestingly, the KMTNC/ACA, which generates over one million US dollars annually from visitor entrance fees (Rs2000/person or about US$27/person), is in no hurry to begin the hand-over process to the local community as envisioned when it started; perhaps because it is too good (i.e., economically, power structure wise and in terms of its internal governance structures) for the KMTNC to let it go. On the other hand, the KCA, which hardly makes a few thousand dollars a year, is about to be handed over to the local KCA Management Council for long-term management. Innovations in conservation, seem to largely depend on many factors, including the commitment of institutions and professionals facilitating the process (Brechin et al. 2002; Brown 2003b).

4.6 Conclusion

Nepal has made remarkable progress in conservation since 1973 by dedicating over 18% of its land for protection and transforming conservation approaches and policies. The shift from strict protectionist, to community-based, conservation approaches and the change of focus from species preservation, to ecosystem protection, have contributed to the increase in area coverage, as well as increasing the efficiency of the management of protected areas in addressing the goals of biological diversity conservation and sustainable community development.

In practice, the shift from people 'exclusion' to 'inclusion' approaches can be seen as an innovative way of integrating local people's needs into the protectionist model—rather than making a total paradigm shift towards people-oriented approaches—as the primary focus is still to conserve mega mammal species that require large geographical spaces for long-term sustainability. Conservation initiatives in Nepal began with a focus on protecting large mammal species in parks, and gradually moved towards participatory ecosystem protection, and trans- boundary and landscape level conservation. As a result, Nepal offers ample learning opportunities on the way conservation can be sensibly done, with the participation of people, in one of the most biogeographically, ethnically and culturally diverse, yet impoverished, nations.

5. THE KANGCHENJUNGA CONSERVATION AREA

This chapter presents the local environmental and socio-economic conditions of the Kangchenjunga Conservation Area (KCA). It contains two main sections and a brief conclusion. The first section presents the biophysical characteristics of the KCA. The second section describes the characteristics of the local people and their livelihoods and sheds light on the relationship between the people and their environment. This section also provides an account of the local institutions and community infrastructures. The main contents of this chapter are analysed in Chapter 7 while examining the impacts of the Kangchenjunga Conservation Area Project (KCAP).

5.1 Bio-Physical Characteristics

The following section introduces the KCA and presents the status of biodiversity, in brief, and of forest and wildlife, in detail.

5.1.1 Area and Location

In recognition of its rich natural and cultural resources, the Kangchenjunga[1] Conservation Area (KCA) was first declared a 'Gift to the Earth'[2] on 29 April 1997, in support of WWF's Living Planet Campaign, and later conferred protected area status on 21 July 1997, under the Conservation Area Category[3], by His Majesty's Government of Nepal (HMG/N). The first gazetted area of 1,650 km^2 was expanded to 2,035 km^2 in 1998 in order to facilitate the community-based management of natural resources (WWF-NP1999; WWF-NP 2005b).

The KCA, named after its highest peak, Kangchenjunga (8,586 metres), the third highest mountain in the world, is situated in the north-east corner of Nepal at 27°30'–28°00' N and 87°45'–88°15' E, sharing an international border with Sikkim of India in the east and the Tibet Autonomous Region (TAR) of China in the north (Map 5.1) (Freshfield 1979). This mountain ecosystem holds potential for trans-boundary conservation (Maskey 1997a; WWF/ ICIMOD 2001), and serves as an important watershed for eastern Nepal and India (Yonzon et al. 2000; KCA-MC 2005). The landscape is dominated by high mountain peaks (with 10

1 Publications and documents published by WWF-NP spelt 'Kangchenjunga' without a 'g' prior to 1999, and then adopted 'Kangchenjunga' from Douglas W. Freshfield's book 'Around the Kangchenjunga', first published in 1903. 'Kangchenjunga' was adopted to make the meaning consistent with the local Sherpa/Bhote language, in which *kang* means mountain.

2 "A Gift to the Earth is a public celebration by WWF of a conservation action by a government, a company, an organisation, or an individual which is both a demonstration of environmental leadership and a globally significant contribution to the protection of the living world." (http://www.panda.org/about_wwf/how_we_work/gifts_to_the_earth/index.cfm, Accessed 15 July 2006).

3 The KCA is a Category VI protected area under the definitions of the IUCN (1994) Guidelines for Protected Area Management Categories (http://www.unep-wcmc.org, Accessed 15 July 2006).

additional peaks over 7,000 metres high) and one of the longest non-polar glaciers on Earth (Gurung and Gurung 2002b). The altitude of the KCA varies from less than 1,200 metres to over 8,500 metres above sea level.

Map 5.1: Location of Four KCA Village Development Committees and Major Infrastructure

Source: WWF-NP

Topographically, the KCA is characterised by four main river valleys with steep-sided slopes, i.e., the Ghunsa, Simbua, Tamor and Yangma. The area consists of 65% rocks and ice/ rivers, 14% different forest types, 10% shrubs, 9% alpine meadows and only 1.6% is used as agricultural land (Amatya et al. 1995).

The KCA has four Village Development Committees (VDCs), namely Lelep, Tapethok, Walangchung-Gola[4] and Yamphudin of Taplejung district, and covers about 56% of the most northern part of the district. The area remains remote due to lack of access by road or air and, therefore, can only be reached on foot. It takes four or more days to reach the last settlements of Ghunsa, Gola and Yangma from the secondary road head. The nearest secondary road head from the lowland Tarai ends at Phungling[5] Bazaar, the district headquarters. However, the transportation of goods and services to the Bazaar remains

4 Walangchung-Gola village is also locally called 'Gola' in short and, therefore, referred to as 'Gola' wherever appropriate hereafter. In the local Bhote language, the place is called *Wahlhung (Wah* mean fox and *Lhung* means settlement). An old man from Gola told me that their ancestors were looking for a place to inhabit. In the process, their local deity transformed into a fox, guided them through the mountain valleys and finally disappeared at the present Gola. Therefore, they settled here first and named it *Wahlhung*— 'settlement of fox'. Most of the maps and earlier documents spell it 'Olangchung'. (Also see Ukyap 2001).

5 Phungling is the VDC in Taplejung district where the district headquarter is located and where economic activities are centred. The district headquarters is also referred to as Phungling Bazaar.

mostly unreliable throughout the summer season due to poor road conditions caused by heavy rainfall. A goods market, state administrative services and the only banking facility are confined to the Bazaar. Likewise, air services from Biratnagar and Kathmandu, available a few times a week, are also limited to Suketar airport, two hours walk up hill from the Bazaar. Air services are halted during the rainy season, mainly for the months of June, July, August and September, and often for longer periods of time, depending upon the arrival and departure of the monsoon. The area is accessible from Tibet and Sikkim sites (Map 5.1 and Chapter 5.2.3.2).

5.1.2 Climate

The KCA climate ranges from sub-tropical to alpine due to an extreme altitudinal gradient of over seven thousand metres within a short distance of less than 100 km. High rainfall and humidity generally characterise the climate (Shrestha and Ghimire 1996). The lower altitude areas (below 1,800m) of Lelep, Tapethok and Yamphudin experience a warm summer and mild winter; whereas the higher altitude areas (above 2,500 m), such as Ghunsa, Gola, Pholey and Yangma, go through a mild summer and a cold winter with snow and frosts. According to Dhakal (1996) about 80% of the rainfall (2,625 mm annual average) in the Kangchenjunga Conservation Area occurs during the monsoon (mainly June to September), while the rest is fairly and evenly spread throughout the year. There is no metrology station inside the KCA, but the Taplejung district headquarter station records an average of 2,013 mm of rain annually (KCA-MC 2005).

5.1.3 Biodiversity

The KCA belongs to the Kangchenjunga mountain ecosystem and 'biodiversity hotspot'[6] (WWF/ICIMOD 2001), and harbours thousands of floral and faunal species including 83 reported species of insects (KCA-MC 2005). The area is part of the Eastern Himalaya ecoregion, which consists of the Eastern Himalayan Alpine Meadows and the Eastern Himalayan Broadleaf and Conifer Forests, two of the WWF's Global 200 Ecoregions[7] (WWF-NP 2001c). The region encompasses the Kangchenjunga Biosphere Reserve in Sikkim to the east and the Qomolongma Nature Reserve in Tibet to the north, and offers opportunities for trans-boundary conservation (Rastogi et al. 1997; WWF/ICIMOD 2001). The first formal tri-nations consultation to explore possibilities to conserve the mountain complex from all three sides was held in 1997 in Nepal and contributed to the creation of the KCA in Nepal and the extension of the boundaries of the Khangchendzonga National Park in Sikkim with the Biosphere Reserve (Gurung and Gurung 2001a). Efforts have also been made to formalise protection from the Tibet side, all almost connected with the Qomolongma Nature Reserve (WWF/ICIMOD 2001). However, formal protection from the Tibet side remains to be realised.

6 Conservation International defines a biodiversity hotspot "... as a biographic region that is both a significant reservoir of biodiversity and is threatened with destruction" (http://www.biodiversityhotspots.org/xp/Hotspots/, Accessed 10 June 2005).

7 WWF defines an ecoregion as "... a relatively large unit of land or water containing a characteristic set of natural communities that share a large majority of their species, dynamics, and environmental conditions" (http://en.wikipedia.org/wiki/Global_200, Accessed 17 June 2006).

Table 5.1: Biodiversity of the KCA Compared to National and Global Biodiversity

Species	KCA	Nepal	World
Plants	844	5,884	220,559
Birds	253	861	9,040
Mammals	22	181	4,000

Source: KCA-MC 2005, HMGN/MFSC 2003a

The area hosts a high level of biological diversity due to vast altitudinal and climatic variations within a short distance (i.e., from subtropical to permanent ice). Indeed, the Nepal Himalayas are considered a high species diversity zone compared to the rest of world's flora (Shrestha and Ghimire 1996). The resilience of the biodiversity of the Kangchenjunga Conservation Area is enhanced by high rainfall, as the area receives the first and the heaviest part of the monsoon precipitation in Nepal (Yonzon et al. 2000; KCA-MC 2005).

Forests: Over 16% of the KCA is covered by 15 different forest types, consisting of 844 reported plant species (KCA-MC 2005). In fact, 15 out of 28 species of endemic flowering plants, 24 out of 30 rhododendron and 69 out of 250 orchids found in Nepal all occur in the KCA (Amatya et al. 1995).

Furthermore, the area harbours the only extensive stands of Himalayan larch (*Larix griffithiana*) in Nepal, and many other endangered (*e.g., Michelia Kisopa*) and vulnerable (e.g., *Picrorhiza scrophulariiflora*) plant species (Appendix V). The low altitude areas are covered mainly with deciduous forest; whereas the high altitude areas are covered with evergreen conifer forests. Compared to other mountain areas of Nepal, the KCA has a relatively high degree of tree cover (Hetts 1996; WWF-NP 2003).

Forests are the primary source of fuelwood (for heating and cooking), timber (for construction), fodder (for livestock) and medicinal and aromatic plants (MAPs) (for health care and income). Dhakal (1996) suggests that about 35% of the KCA forest area is registered in the name of clans or individuals, 40% is assumed to be under government ownership and 15% are religious forests (e.g., *rani ban* or 'Queen's forest'). The remaining only 10% is community forest.

Table 5.2: Annual Use of Forest Products in the KCA in 2004

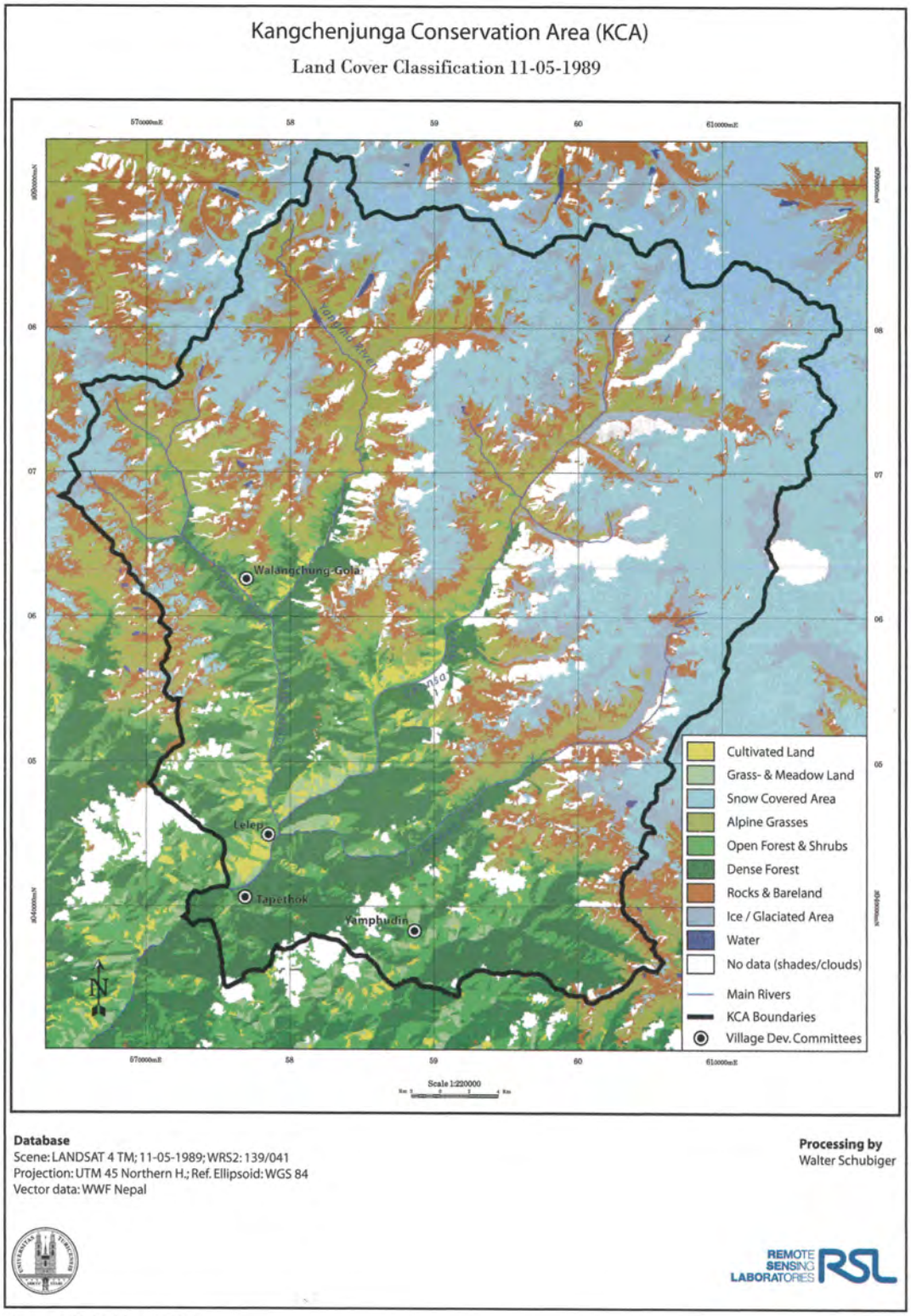
Forest Products	Quantity
Timber	9,672 ft3
Fuelwood	8,472,240 kg
Fodder/Grass/Leaves	5,605,015 kg
NTFPs and MAPs	135 metric tonnes

Source: KCA-MC 2005, Oli and Nepal 2003

The current Annual Use of Forest Products in the KCA in 2004 is estimated to be 9,600 ft^3 of timber, 8,472,000 kg of fuelwood, 5,605,000 kg of fodder, grass and leaves, and 135 metric tonnes of NTFPs and MAPs (Table 5.2). Even though the validity of these findings could highly be contested (Thompson and Warburton 1985), they provide grounds for further studies and comparative analysis. However, as none of the known studies on the KCA report on the production side of forests, it seems necessary to examine forest production capacity to understand the relationship between production and consumption, and to contribute to sustainable natural resource management.

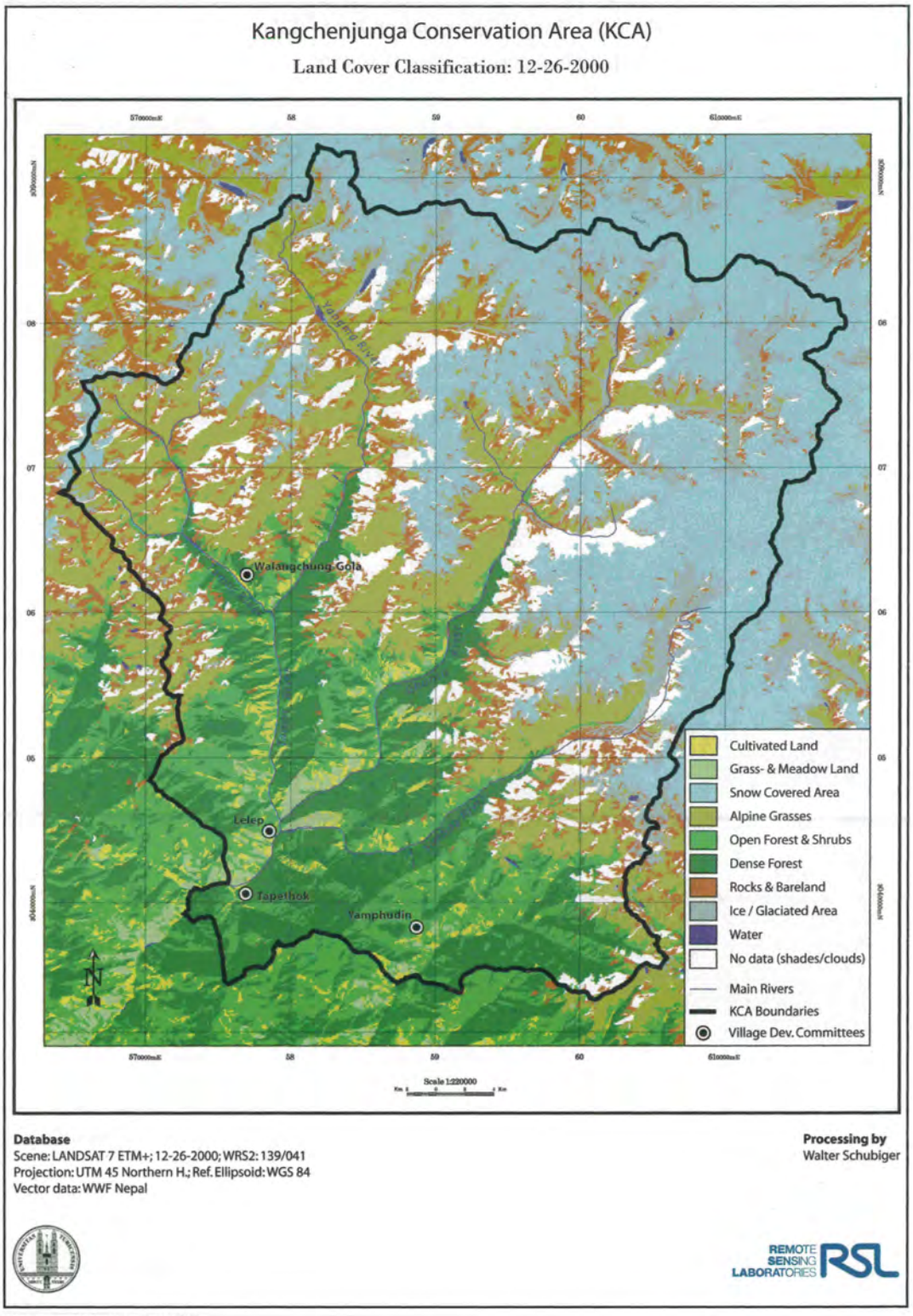
and a 1.1% decrease in agricultural land, as well as significant improvement in the general forest condition, after continuous degradation since 1978. However, these changes contradict the findings of Gautam and Watanabe (2003), and the high deforestation reported by Dhakal (1996) and Peterson (2000). Nonetheless, direct observation and comparative analysis of Schubiger (2006) clearly suggests that the overall forest condition in the area has improved, or at least remains unchanged, since the mid 1990s. Hence, the findings that indicate deforestation are either reporting isolated cases, rather than the overall forest condition of the area, or the results should be subject to scrutiny.

Map 5.2: Land Cover Area of the KCA in 1989



Source: Schubiger 2006

Map 5.3: Land Cover Area of the KCA in 2000



Source: Schubiger 2006

Wildlife: Besides its floral diversity, the KCA is also rich in faunal diversity and home to many endangered species such as the snow leopard (*Uncia uncia)*, red panda (*Ailurus fulgens),* Himalayan black bear *(Selenarctos thibetanus)* and musk deer (*Moschus chrysogaster*). More than 22 species of mammals and 253 species of birds are found in the area, and many species are yet to be reported (KCA-MC 2005). The endangered birds found in the KCA are the Himalayan monal *(Lophophorus impejanus*), the satyr tragopan (*Tragopan satyra*), the Tibetan snow cock (*Tetraogallus thibetanus*) and the blood peasant (*Iithaginis cruentus*). Wildlife species in the KCA are officially strictly protected under the National Parks Act 1973 and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) (Appendix IV).

In the KCA, most of the local residents consider wildlife a threat to their livelihoods due to crop and livestock losses caused by wild animals (Yonzon 1996; Mahato 2003). In fact, the crop and livestock depredations by wild animals are not a recent phenomenon (Sherpa 1994). However, the concerns are growing with increasing depredations (Mountain Spirit 2003; Loksam 2003; Toccoli 2004). Even though an actual increase in wildlife numbers remains to be proven, crop raiding by barking deer, Himalayan black bears, monkeys and porcupines is rampant across the KCA settlements. Livestock depredation (mainly confined to alpine zones) is also increasing (WWF-NP 2003, 2004; Table 5.3). Although Yonzon (1996) reports possible livestock depredation by snow leopards and grey wolves (*Canis lupus*) in Ghunsa and Yangma pastures, only livestock depredation by snow leopards has been reported thus far (WWF-NP 2000, 2004). The presence of the grey wolf remains to be confirmed.

Table 5.3: Altitudinal Belts with Crop and Livestock Depredation by Wildlife in KCA

Type of Depredation	Species Causing Depredation		Remarks
	Lower Altitude (Between 1000-2500 m)	Higher Altitude (Above 2500m)	
Crop raiding (depredation)	Himalayan black bear, langur, rhesus macaque, porcupine, barking deer, wild pig, Himalayan palm civet	Himalayan black bear, langur, Assamese macaque, barking deer, ghoral, blue sheep, Himalayan tahr	• Crop raiding by wild pigs first reported in 2002 in the Lungthung area • The Himalayan palm civet is locally known as 'kala'
Livestock depredation	Jackal, fox, jungle cat	Snow leopard, grey wolf, jackal, fox, yellow throated	• The snow leopard is the main cause of livestock depredation

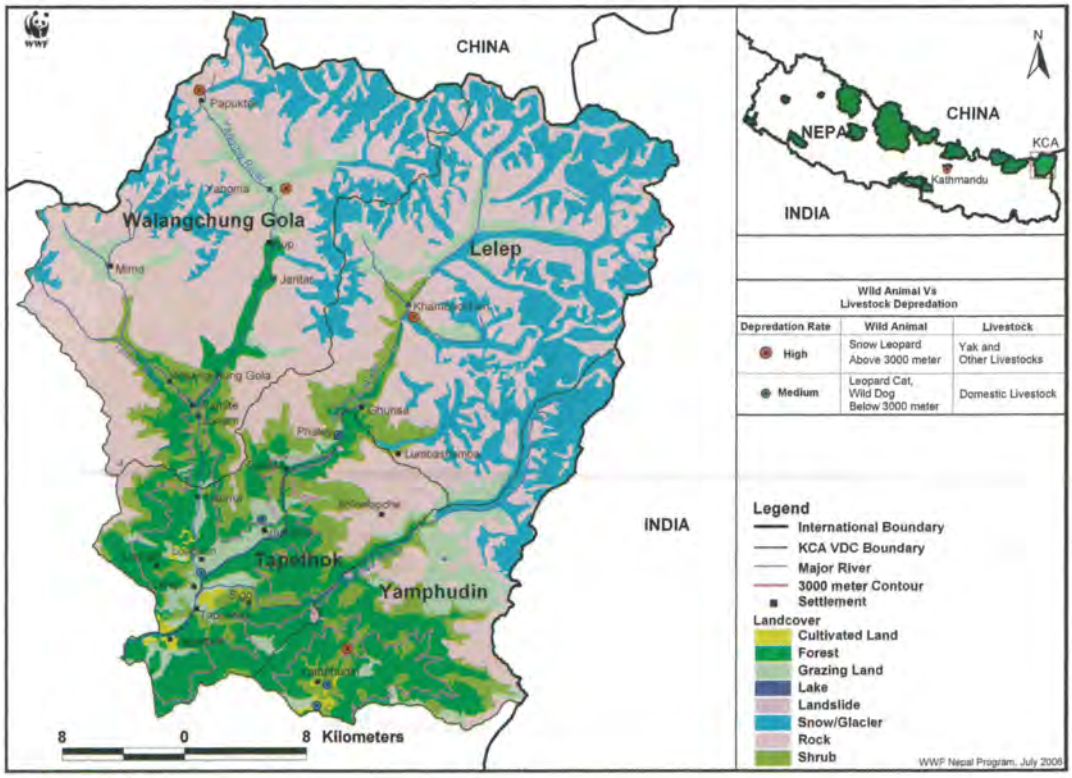
Source: complied from Yonzon 1996, Loksam 2003, WWF-NP 2004, Toccoli 2004, own data 2004/2005

There have been reports of growing cardamom losses to monkeys (e.g., the Assamese macaque and rhesus macaque) since 2000 and of cornfield raids by wild pigs (*Sus scrofa)* from 2002 onwards (WWF-NP 2004). The loss of domestic pigs to the common leopard (*Panthera pardus)* has also been reported, along with the finding of an abandoned leopard cat (*Felis bengalensis*) cub (WWF- NP 2003). Wild pigs are found all over the KCA, including

in settlements as high as Ghunsa since 2004. Furthermore, signs of the presence of snow leopards (e.g., kills, pug marks and excretion etc.) and live sightings have been frequently observed by both herders and the KCAP wildlife monitoring team in recent years (WWF-NP 2001d, 2002, 2003, 2004). Yonzon (1996) confirms the absence of depredation by leopard cats, the common leopard and by wild pigs, which are reported to be problematic animals in other mountain protected areas of Nepal.

Map 5.4 and Map 5.5 provide an overall picture of crop and livestock depredation sites, which can be used to monitor future trends. These crop and livestock depredation sites were mapped during the filed studies in 2004 and improved during the stakeholders' consultations in 2005.

Map 5.4: Main Sites of Livestock Depredation by Wildlife in Different Altitudinal Zones

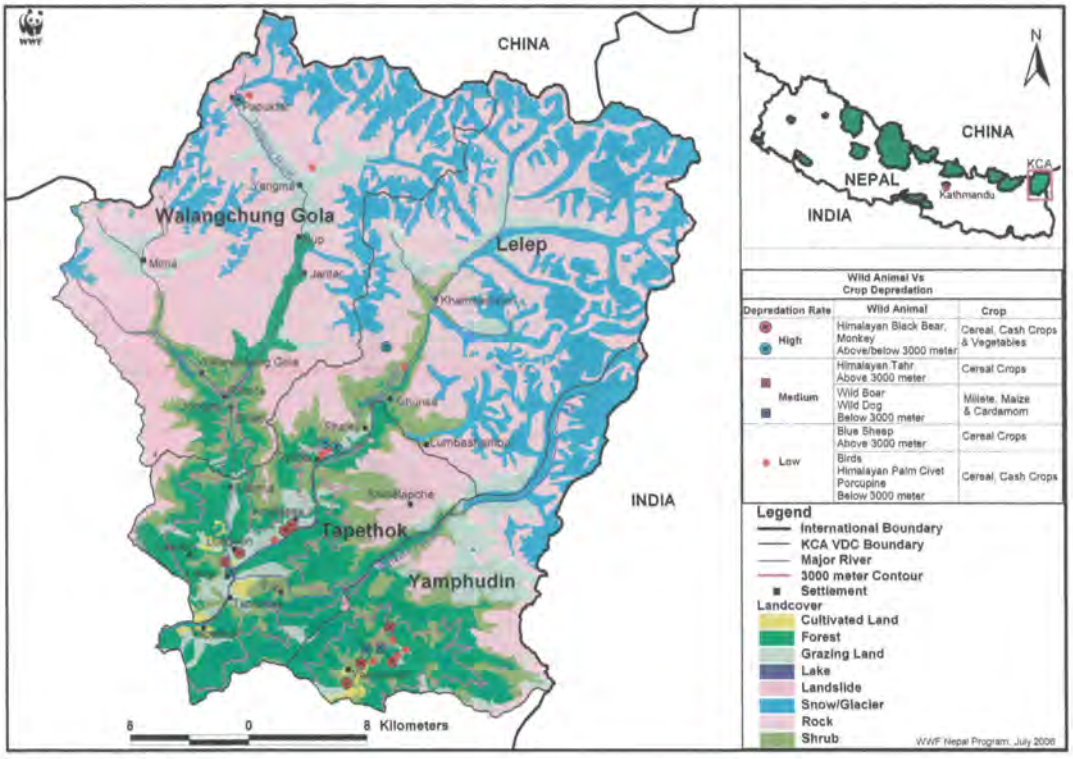


Source: WWF-NP

A wildlife species known locally as *kala*, which is mainly seen raiding cardamom (Sherpa 1994; Yonzon 1996; Toccoli 2004) was finally identified by the author and the KCAP staff as the Himalayan palm civet (*Paguma karvata)* in December 2005. The species was identified with the help of video footage taken by Mr Kishor Kumar Rai, a journalist from Taplejung who went with cardamom farmers to identify the mystical cardamom raiding *kala*. It seems that the Himalayan palm civet does not break the cardamom skin while eating and digesting, and disposes of its excretion within a confined area. As a result, farmers can collect the excreted cardamom easily and sell it in the market, after mixing it with fresh cardamom.

The poisoning (e.g., with met-acid agent) of carnivores—mainly the common leopard and snow leopard—by local people to protect their livestock was reported during the initial phase of the KCAP (WWF-NP 1998, 1999, 2000). This retaliatory means of killing carnivores also seems to have inadvertently killed scavengers. Even though the actual impact of poisoning on wildlife numbers remains unknown, very few scavenging birds such as eagles, vultures and crows were observed during the KCAP inception phase. Meanwhile, the number of scavenging birds has been observed increasingly since 2000.

Map 5.5: Main Sites of Crop Depredation by Wildlife in Different Altitudinal Zones



Source: WWF-NP

Despite conservation measures, such as wildlife monitoring and anti-poaching operations, the poaching of endangered wildlife species persists (Oli and Nepal 2003; Toccoli 2004; WWF-NP 2002, 2004). The two most commonly poached wildlife species are the Himalayan black bear, for its gall bladder, and the musk deer, for its musk (WWF-NP 2000, 2003). Hundreds of musk deer traps were dismantled by the KCAP wildlife monitoring team between 2002 and 2003 as poaching escalated, particularly in the Yangma valley (WWF-NP 2002, 2004). Both the KCA inhabitants and cross-border Tibetans are reported to be heavily involved in musk deer poaching; whereas the Himalayan black bear is only killed by locals (WWF-NP 2003). The gall bladders and musk are sold mainly in Kathmandu and nearby Indian markets. The increase in musk deer poaching is due to the high black market value for musk, the KCAP's inability to conduct anti-poaching operations during the insurgency and the easy availability of the plastic snares used to trap musk deer.

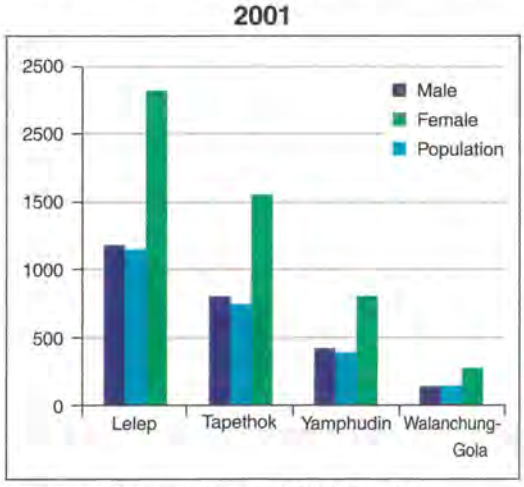
5.2 People and their Livelihoods

The following section provides an account of the social and livelihood aspects of the KCA inhabitants. A brief account of the most notable traditional institutions and a list of organisations active in the KCA are presented in this section, along with a description of the status of community infrastructure.

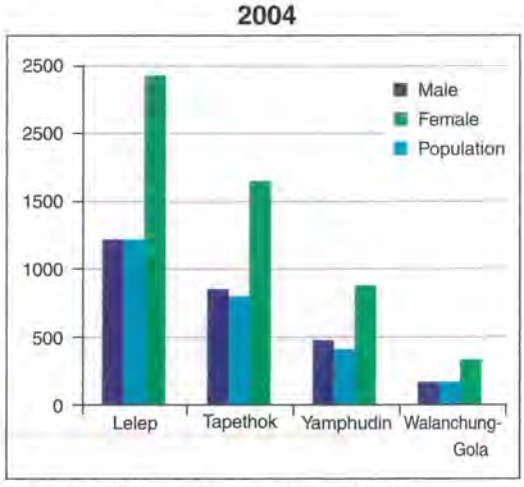
5.2.1 Demography, Ethnic Groups and Religion

Demography: The total population of the KCA is 5,254 (2,562 females and 2,692 males) who live in 35 widely scattered villages consisting of about 1,000 households (KCA-MC 2005). Lelep VDC has the highest population in the KCA and Walangchung-Gola has the lowest population (Figure 5.1).

Figure 5.1: Gender Disaggregated Population of KCA in 2001 and 2004



Source: CBS 2002c Source: KCA-MC 2005



Source: CBS 2002c Source: KCA-MC 2005

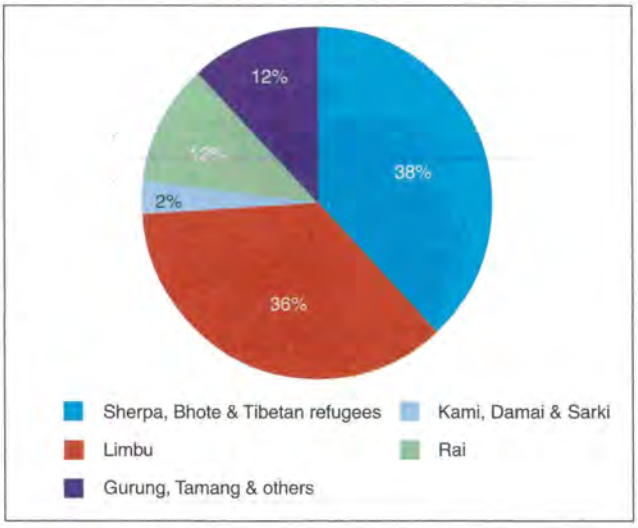
A negative population growth rate of minus 0.06% was reported for the period 1981 to1991 in the Taplejung District Census 1991, with a district population of 120,053. This negative population growth rate was attributed to large migration to the Tarai (Dhakal 1996). However, despite the continuation of out-migration since the democracy movement in 1990 and the current political instability, the recent trend shows the total population growth in the KCA (from 4,941 in 2001 to 5,254 in 2004), in all VDCs, even over three years (Figure 5.1). On average, the Tapethok VDC has the highest population growth rate, followed by Lelep VDC (WWF-NP 2001a).

Ethnic Groups/Caste and Settlement: The ethnic groups in the KCA can be broadly divided into two groups along language lines, i.e., Tibeto-Burman and Indo-Aryan language groups (Figure 5.2). The main ethnic groups in the area are Sherpa/Bhote (including Tibetan refugees), Limbu and Rai. They together represent about 86% of the total population. The remaining 14% consists of Gurungs and Tamangs as well as Brahmins, Chhetris and the *Dalits* or so called untouchables (Figure 5.3).

The high hill caste like Brahmin and Chhetri are not permanent inhabitants. They are occupational and work as civil servants, policemen and teachers (Dhakal 1996; WWF- NP 2001a; KCA-MC 2005). Nevertheless, most of them reside in the KCA almost year round. For example, many school teachers have lived in the area for over 10 years. The *dalits* such as Kami, Damai and Sarki are also occupational, yet they are permanent inhabitants of the area.

Figure 5.2: Ethnic Group and Castes in the KCA

Figure 5.3: Ethnic Group Composition in the KCA



The Limbu are known as 'Kiranti' with a history going back thousands of years. They are believed to be the first settlers of the mid-hills (including the Kathmandu Valley), but were later forced by other ethnic groups to settle in the north-eastern Himalayas nearly two thousand years ago (Bista 1967; Amatya et al. 1995).

The Limbus and Rais are Tibeto-Burman descendents, speak Tibeto-Burman languages and share similar traditions and customs. Historically, Limbus and Rais dwelt in one-storey stone/earth houses with thatched roofs and walls washed with white earth and red ochre (Gurung and Gurung 2002a). In recent times, they mostly live in highly scattered two-storey houses built of mud and stone and roofed with straw, wooden planks or tin (Photo 5.1).

Photo 5.1: Limbu Settlement in KCA

Source: U. Müller-Böker

The Sherpa ethnic group is also known as Bhote or Bhutia (generic Nepali term for Tibetan), as they originally migrated from the Tibetan plateau about 400 years ago and have a close affinity with Tibetan culture (Hooker 1905; Fürer-Haimendorf 1978; Amatya et al.

1995). Uprety (1994) and Dhakal (1996) suggest that the majority of Bhote took the Sherpa surname a generation ago to convince Nepalese census-takers that they were not recent Tibetan immigrants. However, a few influential families have kept the surname Bhutia or Lama, particularly those who associate Sherpas with porters (Bhutia, G. 2004, pers. Comm., 13 February). In fact, the term Sherpa means 'easterner', or a person coming from the east, in Tibetan language, rather than a caste or stem. In Nepal, the surnames used by many ethnic groups do not represent their true stem, as the census records and official documents (e.g., citizenship) are issued based on the mainstream Hindu social structure/caste rather than on the stem specific to minority ethnic groups. Thus, many Bhote ethnic groups from Dolpo and Mustang have adopted Gurung as a surname; whereas the surnames Sherpa and Lama are commonly found in eastern Nepal.

Tibetan refugees are the most recent migrants to settle in Gola and Pholey, and arrived only after 1959 (Amatya et al. 1995). The highland Sherpa/Tibetan refugee houses are built with stone, mud and extensive use of timber. They live in compact settlements, contrary to Rai and Limbu ethnic groups who tend to spread out.

Photo 5.2: Sherpa/Bhote Settlement in KCA

Source: U. Müller-Böker

Rai, Gurung and other minority ethnic groups have made the KCA their home relatively recently. The Gurungs arrived in the early nineteenth century (1832 AD) as part of the conquering Gurkha army of 'Prithivi Narayan Shah'[9]. The Rais came only in the mid 1930s in search of agricultural land and wage earnings (Uprety 1994; Amatya et al. 1995). The majority of Rais and Gurungs have settled in Yamphudin.

Religion and Way of Life: A mix of Buddhism, Hinduism and animistic beliefs is prevalent in the KCA (WWF-NP 2001a). The way of life of Sherpa and Tibetan refugees is based on Tibetan Buddhism. Their cultural ceremonies are centred around local *gompas* (monasteries), and *Lamas* (monks) are called upon to perform specific rites and rituals and to give spiritual advice. Their religious practice is primarily based on two different sects of Tibetan Buddhism (*Ningma* and *Kagyu*) and influenced by animistic and Hindu elements (Gurung and Gurung 2002a). Only the Tibetan refugees follow the *Gelugpa* sect, known as yellow hat sect of Tibetan Buddhism. The religious practices and way of life of the local Buddhists are dominated by the ideology of inter- connectedness and non-violence towards all living beings.

9 Prithivi Narayan Shah is the founder of the modern state of Nepal from which the Royal family of Nepal currently draw their lineage. The modern Nepal's 237 years of the direct Shah dynasty rule ended politically in May 18, 2006 when the re-instated house of parliament declared unanimously Nepal as a 'secular state' and changed its name from 'His Majesty's Government of Nepal' to 'Nepal Government'.

The Limbu and Rai ethnic groups practice an integrated religion of shamanism, Buddhism and Hinduism, with strong elements of animistic beliefs and practices. The main practice includes the worshiping of ancestors and the local deities of mountains, rivers and forests, as well as ritual offerings/sacrifices of chickens, goats and other animals.

All the belief systems in the area strongly reflect the surrounding natural environment, because the local inhabitants worship specific forests, trees, rivers, waterfalls, lakes and mountains as some form of abode of the deities, and respect wildlife. Most of the traditional songs also reflect the local people's respect for nature. This faith has helped establish and protect many religious sites and monuments, as well as forests and wildlife (Amatya et al. 1995), even though the rationale and implications of the faith are contested in the context of Buddhists killing wildlife (Badgett 2000; Tsukamoto et al. 2002; Toccoli 2004). There are also many cases where human greed has undermined the faith and the co-existence of wildlife and humans. For instance, musk deer (*Moschus chrysogaster*) are no harm to people, yet are killed indiscriminately for their musk. Nevertheless, it can be assumed that if faith had not played such an important role in conservation, the area would not have remained a biodiversity hotspot worthy of international recognition for protection.

Photo 5.3: Tashichhyoling Gompa

Source: U. Müller-Böker

The most significant religious monuments found in the area are the Dikichhyoling and Tashichhyoling Gompas (monasteries), the Oktang Shrine and the Pathibhara Devi Temple. The Pathibhara Devi Temple in Tapethok is the most important religious site for Hindus, and is visited by more than 20,000 visitors a year (KCA-MC 2005). Dikichhyoling Gompa in Gola is believed to be over 400 years old and is considered historically and culturally significant among Buddhist ethnic groups. Likewise, the Oktang Shrine in Tapethok is the most important site for the Limbu communities and has drawn more visitors in recent years. Most of the religious sites and *gompas* in the KCA are over a hundred years old and, therefore, are of historical importance. Despite the KCAP's culture conservation efforts, all of the noteworthy *gompas* are in a dilapidated condition and are facing a shortage of monks to carry out rituals and retain their past glory.

The biggest festival of the year for Sherpas/Bhutias, Tibetan refugees and Gurungs is *Lhosar* (Tibetan New Year). *Dasain* is the main annual Hindu festival and is followed by *Tihar* (festival of lights, colour and brother-sister bonding). Both are also celebrated by other ethnic groups. However, some Limbus have stopped celebrating these two Hindu festivals and, instead, have started worshipping an indigenous Limbu deity named Kirateswor. The majority of Gurung communities have also shifted from celebrating *Dasain* to celebrating *Lhosar* since the early 1990s.

5.2.2 Traditional Institutions and Stakeholders

The functioning of traditional institutions is prevalent in the KCA among all the ethnic groups. As mentioned earlier, *gompas* play a profound role in shaping the way of life of Buddhists. Among the traditional institutions, the *Kiduk* (Tibetan for welfare) among the Sherpa/Bhutia communities and the *Kipat* among the Limbu ethnic groups are the most notable. Functionally, there is very little difference between the two. Perhaps the main distinction is that clans and/or individuals and families hold land title under the *Kipat* system; unlike the *Kiduk* system, which is mainly a regulatory body. The *Kipat*, as a form of communal land ownership, dates back to the period of the Sen Kings, prior to the Gorkhali conquest of the region in 1774 (Regmi 1976). This traditional institution still regulates pastures and the use of forest products (Brown 1994; Kollmair et al. 2003), despite the fact that the system was officially abolished after the Land Reform Act 1964 followed by a land survey (Uprety 1994).

The village *Kiduk* and herder's *Kiduk* are the two main traditional institutions that regulate many village functions, such as the planning and implementation of agricultural, pasture, livestock movement and fodder harvesting (e.g. grass-cutting day in Gola) calendars (Sherpa 2002). The Lelep *Kiduk* has included other ethnic groups, demonstrating the cooperative nature of community- based traditional institutions (Uprety 1994). In general, the nationalization of forests and pastures has made a very little difference to the utilisation patterns of forest resources in the KCA.

Besides *gompas,* the *Kipat* and *Kiduk*, there are two other traditional institutions worth describing here. The first is the *Gova* (generic Tibetan term for headman of a village), most notable in Walangchung-Gola. The *Govas* ruled many villages until 1960, before the Panchayat governance system took over in 1962 (Brown 1994). The *Gova* families still have influence over the day-to-day affairs of Gola village and are among the most highly educated members of the local society (e.g., senior civil servants, medical doctors and engineers)—the majority now living in Kathmandu. The second is the *Dhuntshang*, which means 'feast together' in the Sherpa language. The *Dhuntshang* is a popular local way of welcoming guests. Hardly any outsider visiting Sherpa communities in the KCA escapes this welcome event. Mostly young women from the upper KCA settlements welcome guests with food and drinks and the visitors are expected to compensate by paying more than the value of what is being offered. This role is currently taken up by mothers' groups and funds raised from the *Dhuntshangs* are incorporated into their saving and credit schemes (Chapter 6.2.4). One way or another, most of the traditional institutions in the KCA continue to function within the framework of the new KCA institutions (Chapter 6.2.2).

Table 5.4: List of Existing Most Notable Local Institutions[10] and Organisations Active in KCA

Community-Based		Government		Non-Government		
Traditional	**KCA[11]**	**Local**	**Line-Agency**	**INGO**	**NGO**	**Research**
Kiduk	KCA-MC	DDC	DFO	WWF	NGO Forum	Tribhuvan University
Kipat	CAUCs	VDCs	DEO	KAAA	Alternative Group	University of Zurich
Gompas	UGs	Wards	DAO	BBLL	Nepal Mahila	San Francisco State University
Govas	MGs		DDWO	ICIMOD	Udymi Sang	Hokkaido University
Dhuntshangs	SLCC		DCIO	TMI	Pathibhara Development Committee	Resources Himalaya
Rani-bans	CFUGs		DLDO			School for International Training
Grass-cutting	Eco-clubs		DSCO			
			DWDO			

Source: complied from Brown 1994, Uprety 1994, Yonzon 1996, Müller-Böker and Kollmair 2000, WWF-NP 2001a, WWF-NP 1998-2005c, own data 2004/2005

Besides the traditional and KCA institutions, a number of district-based government and non-government organisations, as well as national and international development and academic/research organisations, also have a stake in the KCA (Table 5.4). The responsibility for community development and nature conservation in the KCA primarily falls to local government, (i.e., the DDC Taplejung, the four VDCs and the Wards) and the district-based government line agencies. The District Forest Office (DFO), District Soil Conservation Office (DSCO), District Agriculture Office (DAO), District Livestock Development Office (DLDO), District Drinking Water Office (DDWO), District Education Office (DEO), District Cottage Industry Office (DCIO) and District Women's Development Office (DWDO) are mandated to improve the living conditions of the KCA inhabitants and protect natural resources. However, most conservation and development responsibilities have fallen to the KCAP since 1998. The DFO withdrew its sector offices from the area in 2000, leaving the KCAP to take over full natural resource management responsibility.

The Kadoori Agriculture Aid Agency (KAAA) and Bridge Building at Local Level (BBLL) are active in the KCA in the field of community infrastructure development (Chapter 6.2.4). Likewise, the International Centre for Integrated Mountain Development (ICIMOD) and The Mountain Institute (TMI), in partnership with WWF-NP, are involved in designing the Sacred Himalaya Landscape project, which covers the KCA.

Among the stakeholders (Table 5.4), international non-government development organisations (INGOs) play an important role in improving the living conditions of the KCA inhabitants; whereas district-based government line agencies have the potential to address the various livelihood, as well as conservation, issues of the area—if effectiveness and efficiency is brought into the state service delivery system. Likewise, the district-based local NGOs fulfil the role of civil society (e.g., advocacy) and provide technical support to the many nationally and internationally funded projects in Taplejung district, including the KCAP. Research institutions also play a profound role in raising livelihood and nature conservation issues pertinent to the sustainable development of the area.

10 "Institutions are the rules of a society or of organisations that facilitate coordination among people by helping them form expectations which each person can reasonably hold in dealing with others" (Ruttan and Hayami 1984, p.204).

11 The institutional aspects of the KCA and the KCAP activities are presented in detail in Chapter 6.

5.2.3 Livelihood Strategies

The dramatic altitudinal, ecological and cultural variations found in the KCA have resulted in a wide variety of complex livelihood patterns and adaptive strategies. According to Yonzon (1996), 82% of the total area lies at an altitude between 4,000 and 7,000 metres and only 5% remains below 3,000 metres (above sea level), leaving very little space for suitable inhabitancy. Thus, the survival of the KCA inhabitants is utterly dependent upon a variety of strategies such as agriculture, the harvesting of forest products, petty trade, cottage industry, seasonal migration, wage labour, portering, employment in the British and Indian Ghurkha regiments and, most recently, cash crops and tourism. However, the primary livelihood strategy is still subsistence agro- pastoral practices and the utilisation of natural resources, including shifting cultivation.

Livelihood options vary between higher and lower belts as well as between villages (Table 5.5). For instance, animal husbandry along with carpet weaving in Gola and tourism in Ghunsa are the most important livelihood strategies in the higher belt; whereas agriculture and cardamom and chiraito farming remain the main strategies in the lower belt. Carpet production is the single most important livelihood strategy of Gola villagers and Pholey Tibetan refugees. Carpet production started in the 1960s with initial support from the Swiss government at the request of His Holiness the Dalai Lama (Uprety 1994). The average cost of carpet production (for a piece 112 cm x 170 cm in size) is about NRs.2,200 (about US$30). The price of carpet per piece reached as high as NRs.3,500 in 2002 and NRs.4,200 in 2005.

Table 5.5: Altitudinal Belts with Different Livelihood Strategies in KCA

Characteristics and Livelihood Strategies	Lower Altitudes (1000-2500m)	Higher Altitudes (Above 2500m)
Ethnic groups	Limbu, Rai, Gurung, Sherpa/Lama	Sherpa/Bhutia, Tibetan refugees
Main settlements	Tapethok, Hellok, Lelep, Lungthung, Yamphudin	Gyabla, Pholey, Ghunsa, Yangma Walangchung-Gola
Farming system	Mixed small-scale farming on mainly rain- fed and irrigated fields, shifting cultivation	Animal husbandry and transhumance, rain-fed farming, trade
Main crops	Rice, maize, millet, cardamom chiraito (two crops per year)	Potato, wheat, buckwheat, barley (one crop per year)
Livestock	Cattle, buffalo, goat, sheep	Yak, nak[12], chauri/urang[13], cattle, sheep
Off-farm activities	Porter, military service, seasonal labour migration, selling of forest products (e.,gMAPs/NTFPs), tourism	Trade with Tibet and Sikkim, tourism, carpet weaving

Source: Müller-Böker and Kollmair 2000, p.327, own data 2004/2005

12 Female Yak is called locally *Nak*. Yak is referred commonly to both castrated and non-castrated male.

13 Cow and Yak (bull) and/or Bull and *Nak* crossbreed is called locally *Chauri* for female *and Urang* for castrated male. *Chauris* are raised mainly for dairy production and *Urangs* are bread to plough land, transport goods and export to Tibet.

More than 90% of KCA households do not produce enough food to meet their needs for the entire year, mostly due to lack of productive land (Brown 1994; WWF-NP 2001a; KCA-MC 2005). In economic terms, 34% of households in the KCA remain below the national poverty line (NRs.4,400 or US $65, set in 1996) per month and 43% earn just more than the average GDP per capita of Nepal (NRs.15,000 or US $220) (KCA-MC 2005). The average annual household food sufficiency from their own land is estimated to be less than six months per year (Mountain Spirit 2003; KCA-MC 2005), and poverty is estimated to be 75% based on the sufficiency level of farm income in relation to subsistence requirements (WWF-NP 2001a). Poverty in the KCA is measured through a 'well-being ranking' by the KCAP with a particular focus on subsistence food deficit (Mountain Spirit 2003)—rather than the globally recognised measure of less than $1 per day—in order to keep the measurement locally applicable.

The level of poverty differs between the VDCs and individual households. In average, Walangchung-Gola is the wealthiest VDC followed by Yamphudin, Lelep and Tapethok (WWF-NP 2001a). However, the level of poverty between individuals and/or households differs in each VDC tremendously. For instance, there are many Limbu households in the Tapethok VDC, who make hundreds of thousands of rupees annually from their cardamom farms. Many Limbu men also serve in the British and Indian army, making decent income for their respective families. Similarly, there are many poor Sherpa/Bhote households in the Walangchung-Gola VDC, who live in a meagre subsistence level; whereas the others own dozens of livestock and a house in Phungling bazaar. Nevertheless, the Limbus, mainly living in Tapethok and Lelep VDCs, are the poorest ethnic groups in average with the least food sufficiency (Amatya et al. 1995; WWF-NP 2001a; Loksam 2003; Mountain Spirit 2003). In deeded, the poorest among the poor are the individuals and households who own no land in the lower KCA belts and livestock (also potato fields) in the upper settlements. As a result, they are compelled to adopt numerous livelihood strategies for subsistence such as shifting cultivation, temporary migration, MAP/NTFP collection, wage labour, portering and wildlife hunting. In fact, temporary migration and portering are the two most common livelihood options pursued by the poorest households in the KCA.

The livelihoods of local people can broadly be divided into two categories: farm/forest-based and off-farm strategies. The varied livelihood options within these two categories are presented in the following sub-sections in detail.

5.2.3.1 Farm and Forest-Based

The main farm and forest-based livelihood strategies are agriculture, MAPs/NTFPs and cash crops.

Land and Agriculture: As mentioned earlier, the area has a land tenure and traditional management system widely known as *Kipat*, under which communities and ethnic groups exercise their rights to use common property in the KCA, such as forests, pastures and agriculture lands (Uprety 1994; Amatya et al. 1995; WWF-NP 2001a; Loksam 2003; KCA-MC 2005). Land ownership is still highly contested in the KCA under the *Kipat* system, placing most of the land officially under de-facto use (Brown 1994; Sherpa 1994; Bhandari 2003; WWF-NP 2004). As a result, a large portion of the agricultural land (*khoria*), which mainly

grows corn and cash crops (e.g., cardamom and chiraito), and some of the forest and pastures (*kharkas*) are still utilised by individuals, families and ethnic groups as private land under their customary form of land tenure. Hence, slash-and-burn farming and the expansion of agricultural land continues in the area, even though these practices are illegal under the 1957 Forest Nationalization Act, the 1964 Land Reform Acts and, most recently, the National Parks and Wildlife Conservation Act 1973 and Conservation Area Regulations 2000. In fact, the Forest Nationalization and Land Reform Acts seem to have mostly benefited the village elites, as they were able to bring most of the communal land under their private ownership during the process of land registration by depriving the overwhelmingly poorer sections of the community (Brown 1994). In deed, there are losers and winners or costs and benefits in every development process (Brown 2004). Nevertheless, many socio-economically disadvantaged inhabitants of the KCA seem to have lost a lot during the process of land registration but gained nothing, in terms of their access to communal resources.

In many ways, the Forest Nationalization and Land Reform Acts have proven ineffective in managing natural resources (Amatya et al. 1995; Loksam 2003). This is because the majority of local inhabitants officially lost ownership of their common land while, at the same time, a few influential individuals (e.g., headman), who were entrusted to allocate and use *Kipat* or communal land, slowly claimed and registered the *Kipat* land in their own private names (Brown 1994; Yonzon 1996; Skyfield 2001; KCA-MC 2005). Unclear land tenure and the lack of broad local ownership are seen as key contributing factors leading to the degradation of natural resources in the KCA (Brown 1994; Plumridge 1999; WWF-NP 2003). In many ways, denying access to communal land/resources by the village elites since the land registration seem have undermined the sustainable natural resources management functions of their traditional institutions.

Within the family unit, males hold almost 78% of land title in the KCA (WWF-NP 2001a). Generally, men retain control over land as property; whereas women mainly control the production and processing of food grains, contributing more labour than men in the maintenance of the local economy (Dhakal 1996; WWF-NP 2001a). The common division of labour in farming is that men plough and women prepare the fields, apply manure and plant and harvest crops along with doing the household chores (Locher 2006). Here, women's drudgery is relatively high compared with their male counterparts in the KCA, like in other parts of Nepal.

Subsistence agriculture is the predominant livelihood strategy of KCA residents, as the survival of an overwhelming majority of households depends on agriculture production. In the KCA, 81% of households own land, 14% are share croppers, 3% are landless and 2% identified themselves as *Kamaiya* or bonded labours (WWF NP 2001a). Even though over 80% of households own land, only 8% of households produce enough to sell some of their harvest in local markets. Less than 10% of households produce enough food grains for their own yearly consumption (WWF-NP 2001a) and, therefore, they require additional off-farm or other secondary income sources to sustain their livelihoods.

Limited traditional irrigation is used in cardamom and rice fields leaving 90% of farm land rain-fed (WWF-NP 2001a). To cope with geographical and climatic constraints, local farmers

have developed a system of terraced and shifting agriculture to maximise the arable land. Two types of terrace, locally known as *khet* and *bari*, dominate the farming system. The terraces formed at lower elevations with raised edges to retain water are known as *khet* and are mainly used to grow rice. The flat and outward sloping terraces built at higher elevations and on poor soil are called *bari* and are used to grow corn, wheat, millet, buckwheat and a variety of vegetables (Gurung and Gurung 2002a). Over 90% of KCA households have kitchen gardens, which produce vegetables for household consumption, and surpluses are sold to visitors/trekkers for income (WWF-NP 2001a; Mountain Spirit 2003; WWF-NP 2005b). Vegetable gardens are promoted by the KCAP to improve the nutrition and health of the local people, particularly of the women and children (WWF-NP 1998, 2000; Mountain Spirit 2003).

In the lower KCA settlements, people grow two crops in a year (i.e., rice and millet in summer and maize in winter), other grains at the edges of the terraces and fruits and vegetables close by their houses. Potato is the main crop grown in all settlements by about 90% households (WWF-NP 2001a). Limited by climatic conditions, the upper belt people grow only one summer crop such as wheat, potatoes or barley. Potatoes grown in the Ghunsa area are also used for seed and bartered for food grains, or sold to lower belt residents, as well as outside the KCA. Slash-and-burn/shifting cultivation *(khoria)* was extensively practiced earlier to grow maize and millet (Uprety 1994; Dhakal 1996), and in more recent years to grow cardamom and chiraito on marginal lands. In fact, 170 households in the KCA have been, and most of them are still, involved in some form of slash- and-burn agriculture due to the low productivity of agricultural land and unclear or unsettled land ownership rights (WWF-NP 2005b). Shifting cultivation in the KCA and other areas in eastern Nepal is mainly practiced by Rai and Limbu ethnic groups, as well as by some Tamang and Gurung communities (Schmidt-Vogt 2003; WWF-NP 2005b).

Livestock: Animal husbandry is an integral part of the subsistence livelihood strategies of the KCA inhabitants and 60% of households own cattle (WWF-NP 2001a). It is one of the most important livelihood strategies of highland Sherpas and Tibetan refugees, as well as of many other ethnic groups in the area. There are 4,527 cattle (includes yaks, *naks, urang, chauri*, oxen), 845 pigs and 3,412 goats in the KCA, bringing the total number of domestic animals to 8,875 (KCA- MC 2005). Crossbreeds between yak and cattle (*urang* and *chauri)* are a specialised form of livestock in the villages of Gola, Yangma, Pholey and Ghunsa (Toccoli 2004). Dairy products like *chhurpi* (a form of hardened cheese) and *ghiu* (butter) are produced from Yak's milk and are sold in Tibet and in Phungling Bazaar. Yak hair/fur is used in carpet production and dung is an important source of both fuel and fertiliser in the highland areas. Only about 10% of households raise around one dozen yak or sheep, and even fewer households rear crossbreeds between cattle and yak (WWF-NP 2001a). Most households keep chickens, pigs and goats, particularly in the lower belts, to generate cash income. In general, livestock are mainly raised for meat, wool, dairy products and manure. Oxen are used to plough the land and crossbreeds and yaks are also used as pack animals. The crossbreed *urang* is the most profitable of the livestock reared and are mostly sold in the Tibetan market. For instance, a four year old *urang* can easily fetch the equivalent of NRs.10,000 (US $140) on the Tibetan market.

Photo 5.4: Yak, Nak and Chauri in KCA Pasture

Source: U. Müller-Böker

Livestock numbers have decreased since the late 1980s due to tourism, children attending school instead of herding cattle and the increase in production of cardamom and chiraito (Dhakal 1996; WWF-NP 2001a). However, the number of livestock owners has increased in recent years, even though per household livestock holdings are decreasing. This trend is related to the income diversity strategies of the local people.

Transhumance is a common practice in the KCA, where farmers seasonally move their livestock between highland and lowland pastures (Amatya et al. 1995; Müller-Böker and Kollmair 2000). In the alpine zones, livestock graze in open pastures; whereas in the lower belts, farmers feed their livestock with green grass and leaves from forests, agriculture fields and fodder trees. The largest free range grazing area lies between 3,000 and 4,000 metres. The inhabitants of settlements situated above 2,500 metres and a few sheep owners from outside the KCA use alpine pastures for grazing. In general, animals are brought back to the primary settlements in autumn to fertilise agricultural land and are fed with agricultural residues. The inhabitants of Ghunsa (3,350m) have developed a three settlement herding pattern to deal with the harsh climatic conditions—a summer home at Khambachen, a primary home at Ghunsa and a winter home at Pholey.

Many farmers sold their yaks/livestock in 1997, just before the establishment of the KCAP, out of fear of grazing restrictions under the conservation rules. However, such restrictions have not been placed so far, and farmers seem to be keeping livestock numbers steadily. It seems very unlikely that such restrictions will be imposed as the area is in the process of being handed over to the local community for future management (WWF-NP 2004; WWF-NP 2005b) and livestock remains one of the main livelihood strategies of the local inhabitants.

The assessment of the impact of grazing on pastures varies among researchers. For instance, Carpenter (at al. 1994) reports high grazing pressure, while Brown (1994) and Amatya et al. (1995) observe the degradation of high elevation grasslands and forests with increased livestock numbers. In contradiction, according to Yonzon (1996), the number of livestock is not high enough to exert grazing pressure. Moreover, the traditional high land pasture management system (e.g., *Kipat)* is seen as conservative enough to avoid significant grazing pressure on local wildlife (Brown 1994). These different findings indicate that there is no consensus regarding the impact of livestock grazing on forests and grasslands and, subsequently, on wildlife. However, the general perception of the locals is that grazing pressure from livestock since the mid 1990s has remained relatively constant, while the pressure from blue sheep grazing has increased recently.

MAPs/NTFPs and Cash Crops: Forest products are not only used for subsistence purposes but also to generate cash income. MAPs and NTFPs play an important role in sustaining and improving the livelihoods of the KCA inhabitants due to their contribution to household income (Sherpa 2002; Paudel 2003; Oli and Nepal 2003). A total of 16 out of 139 identified MAP/NTFP species found in the area are traded actively (Oli and Nepal 2003). Among them, cardamom (*Ammomum subulatum* or in Nepali *alainchi*) and chiraito (*Swertia chiraito)* have become an important source of income in recent years and production is increasing in the lower belts of the KCA. Charaito is also locally used to cure fever and common cold.

Photo 5.5: Dried Chiraito Ready for Export

Source: WWF-NP

Cardamom farming is a labour intensive activity that also benefits poor people who own no land but provide wage labour (Dhakal 1996). Currently, 42% of households in the KCA grow cardamom, which has contributed to increasing household income and decreasing livestock holdings (WWF-NP 2001a). Cardamom and chiraito constitute about 90% of the household economies in Yamphudin and contribute to the purchase of food grains for 7/8 months for Tapethok and Lelep households, compared to only 3/4 months contribution by agriculture (Oli and Nepal 2003). The average contribution to the household economy from the trading of MAPs stands at 25% and 50%, in Gola and Yangma, respectively. Furthermore, kutki (*Neopicrorhiza scrophulariiflora*) and maikopila (*Saussurea tridactyla*) contribute approximately up to four months subsistence for these two villages (ibid). In the KCA, cardamom and chiraito make the largest economic contribution to the household income of many of the lower belt inhabitants; whereas MAPs play an important role in sustaining the livelihoods of the upper belt settlements.

Cardamom is grown on wet and marginal sloped land (*alainchi bari*) under the shade of thinly spread alder trees (*Alnus Nepalensis*) as protection from the sun. So far, no research has been done in the KCA on the impact of cardamom farming on soil fertility, the ecology and biodiversity. Many believe that cardamom farming contributes to conservation by increasing biomass and protecting erosion prone marginal lands. Many farmers have

Photo 5.6: A Typical Cardamom Farm

Source: U. Müller-Böker

reported that cardamom size has become smaller in recent years and crop loss to monkey raids is becoming more frequent. One of the major impacts of cardamom farming is that very few goat and sheep herds from the lowlands (outside of the KCA) are venturing onto the KCA pastures. This is because there is not enough grazing land available on the way up and down, and many animals are reported to have died after grazing on cardamom leaves which are considered toxic. Thus, cardamom farming practices since the early 1990s seem to have minimised grazing pressure in the alpine areas of the KCA, providing more room for blue sheep habitat.

Cardamom and chiraito are mainly exported to India via Phungling Bazaar (Sherpa 2001; WWF- NP 2001a; Oli and Nepal 2003). However, the exporting of chiraito to Tibet through Walangchung-Gola has increased since 2003 as the Chinese market proved more lucrative than the Indian market. According to Oli and Nepal (2003), more than 135 metric tonnes of MAPs/NTFPs are being harvested and traded from the KCA, of which cardamom and chiraito constitute 76%, followed by 14% kutki and maikopila. Chiraito was sold in Phungling Bazaar for NRs.2,500 per *mon* (40 kg) in 1993 and the price reached NRs.9,000 per *mon* in 2001 (Sherpa 2002; Paudel 2003). The price of chiraito exported to Tibet through Walangchung-Gola stood at NRs.5,500 per wet *mon* and NRs.8,500 per dried *mon* in 2002, which was much lower than the year 2001 price (Sherpa 2002), but a much higher income than any other crop that can be grown on the marginal lands. The price of cardamom in 2002 in Phungling Bazaar stood at NRs.10,000 per *mon* (Loksam 2003).

5.2.3.2 Off-Farm Activities

The main off-farm livelihood strategies in the KCA are trading, portering, wage labour, migration, hunting/poaching, handicrafts and tourism.

Trade: Walangchung-Gola has been an important trading centre between Nepal and India, and Nepal and Tibet before China closed its border in 1959 after the annexation of Tibet (Brown 1994; Amatya et al. 1995; Heiko 1998). The route still remains vital to localised trade between the KCA inhabitants and bordering Tibetans. The export products from the KCA include handmade carpets, butter, *chhurpi*, yaks, crossbreeds, MAPs and timber.

Photo 5.7: Transportation of Goods by Yaks

Source: U. Müller-Böker

These goods are mainly bartered for rice, sugar, tea, salt, wheat flour, clothes, shoes, sheep wool (the most important raw material for carpet production) and many consumptive goods. The cross-crossbreeds and yaks play an important role as means of transportation while trading with Tibet. Yamphudin and Tapethok villagers produce a limited number of woollen blankets and sweaters, which are mostly sold in the Phungling Bazaar.

His Majesty's Government of Nepal (HMG/N) (now the Government of Nepal) opened the Kangchenjunga area, i.e., Ghunsa and Yamphudin sectors, to international trekking groups in 1988. Prior to this, foreign tourists were allowed to visit the area only as part of mountaineering or expedition teams. Concerned about the lack of infrastructure and the potential negative impact of tourism on the natural and cultural environment, the government has promoted the area as a semi- restricted tourist destination and effectively excluded free independent travellers (FITs). Annual visitor numbers grew rapidly, from 87 in 1998 to 590 in 1999, and then remained stagnant between 550 and 800 until 2000 (WWF-NP 2000, 2001d; Gurung and Gurung 2002a).

With the constant pressure from the local communities and the DDC at Taplejung, the Walangchung-Gola sector was opened for international group trekkers in 2001, in line with the KCA tourism plan. However, visitor numbers showed a downward trend from 2001 onwards, reaching only 417 in the year 2004, despite the opening of the new Gola sector (WWF-NP 2003, 2004). Political instability and the deteriorating security situation contributed largely to the negative growth.

Most of the tourists visiting the KCA originate from European countries, namely Britain, France, Germany, the Netherlands and Switzerland; fewer are reported from the USA, Australia and Japan (WWF-NP 2003, 2004). The peak tourist season is between October and November and accounts for about 50% of the total number of visitors (KCA-MC 2005). International visitors are charged NRs.1000 per person as an entry fee. Fifty percent of this income is set aside for the future conservation and development initiatives of the KCA, while the remaining 50% goes to the central government treasury. The other two conservation areas (ACA and MCA) in Nepal charge NRs.2000 per tourist and the KMTNC retains 100% of this revenue to invest in its integrated conservation and development projects. The KCA Regulations 2005 propose that a similar fee structure or policy be applied by the KCA-MC in order to establish a sustainable financing mechanism for the community-based management of the KCA. Tourism generated NRs.8,07,500 (about US $11,400) in revenue from the KCA entry fee between 1999 and 2003 (KCA-MC 2005).

The economic impact of trekking tourism has been very limited because organised trekking groups bring with them all their equipment and leave very little room for local spending (Gurung 1996; Peterson 2000). Only a few households on the trekking routes, porters and the Ghunsa community have enjoyed some benefits from tourism. Even with a stable political situation and the opening of the area for FITs, no significant increase in tourism is expected in the near future as the area has a short trekking season due to an early monsoon and lacks physical tourism infrastructures and services. Therefore, it is important not to place too much emphasise on tourism promotion in order to avoid high expectations from tourism development amongst the locals and their reliance on the industry (Gurung 1996; Plumridge 1999). Nevertheless, tourism has to be managed sensibly and proactively, regardless of the number of visitors, in order to minimise negative impacts and optimise benefits from tourism development (Watanabe and Ikeda 1999; Gurung and Gurung 2002b). It seems that many researchers and locals perceive the tourism activities of the KCAP as a promotional campaign (Plumridge 1999; Mountain Spirit 2003) rather than a proactive management approach. There is a fine line between tourism promotion and pro-active

management in culturally and ecologically sensitive areas like the KCA. Project activities such as sign boards, snow poles, garbage clean-ups, campsite upgrades, porter/guide/lodge trainings and awareness campaigns are prerequisites for proactive tourism management, and are applied based on the lessons learned in other popular trekking destinations in Nepal, such as the ACA and Sagarmatha National Park, and elsewhere (Jeffries 1982; Nepal 2000). While it is necessary not to create false hope based on tourism development among the local residents, it is also imperative to prepare the ground for sustainable tourism development, as tourism is a promising economic sector both nationally and locally.

There are currently 53 campsites and 46 teahouses/lodges in the KCA, compared to only 17 campsites reported by Dhakal in 1996. Many of these establishments offer limited facilities such as shelter for passing tourists, porters and other support crew for organised trekking groups. The road to Taplejung is in very poor condition and flights to Suketar airport often get cancelled because of low clouds covering the airstrip. Neither the road nor the airstrip is likely to get a facelift in the near future in the uncertain political environment. The only air and road link is a few days walk from the KCA making it less accessible for visitors.

5.2.4 Community Infrastructure and Services

Similar to most of the rural mountainous areas of Nepal, the KCA lacks basic community infrastructure and services. Poor infrastructure is further compounded by the harsh environment, distance from development centres (e.g. road head) and the poor state of service delivery (WWF- NP, 1998, 2001a). Due to poor trails and bridges, the all year around means of transportation is by humans, which magnifies transportation costs. Basic community infrastructures exist in the area including schools, health posts, post offices, drinking water schemes, customs office, VDC offices, police posts, micro-hydro schemes and 25 water grinding mills (*ghattas)* (Table 5.5).

The efficiency and effectiveness of service delivery is perceived to be poor. The Maoists destroyed almost all government infrastructures in 2002, including all of the police posts, VDC offices and the Gola customs office. Meanwhile, the KCAP infrastructures suffered no physical destruction at the hands of the Maoists, primarily due to the concerted and pro-active efforts made by the local people and the project staff (Mountain Spirit 2003; WWF-NP 2003, 2004). However, the Maoist took most of the office equipment, furniture and logistical goods (e.g. sleeping bags), including the radio communications sets from the KCAP offices.

All the schools in the KCA lacking sanitation facilities (Dhakal 996) have recently gained access to latrines and piped water supply (Mountain Spirit 2003; WWF-NP 2004). Similarly, most of the households have installed sanitary toilets and gained access to drinking water facilities (Grubin 2001; Loksam 2003; WWF-NP 2004). However, a few smaller scattered settlements still lag behind and fetch water from streams (Locher 2004). The overall awareness related to health and sanitation has noticeably increased in recent years with the introduction of sanitary toilets, regular village clean-ups, drainage improvements and mobile health camps (Loksam 2003; Mountain Spirit 2003; WWF-NP 2003, 2004).

Table 5.6: Status of Basic Community Infrastructure and Services in KCA

Infrastructure	Status[14]	Remarks
Health/ Sanitation	• 5 health posts and 1 health centre • 175 toilets • All schools have toilets • Regular clean-ups in main villages	• Ghunsa health centre is privately run • Sanitary toilet installation is growing • Drainage systems needs improvement
Education	• 19 schools • 1 childcare centre (CCC) in Hellok • 32 scholarships for girls' education	• 1 girls' hostel in Lelep • Established endowment fund to run the CCC • Fund managed by mothers' groups
Communication	• No telephone service available • 5 post offices	• KCAP has wireless communication sets • Only connection with the outside world
Alternative energy	• Electricity in Lelep & Gola • 2 kerosene depots • 123 back boilers (BBs) • 526 households with solar lighting	• 4 micro-hydro schemes planned • Depots are in Ghunsa and Yamphudin • BBs installed with 119 improved stoves • Solar in poorest households & scattered settlements
Access	• Accessible on foot • 54 km of trails repaired • 24 bridges repaired, 4 installed	• Transportation of goods by human and pack animals • 6 suspension bridges designed for installation
Agriculture	• No veterinary services • No irrigation schemes	• Offices remain in district headquarters • Has some traditional irrigation systems
Trade	• Customs office in Gola	• Not rebuilt after the Maoist destroyed in 2002
Drinking water	• 17 schemes serve major settlements	• Small scattered settlements lack access
Tourism	• 685 snow poles installed • 46 teahouses/hotels, 53 campsites • A few garbage dumping sites exist	• Between Ghunsa and Yamphudin pass • A few community campsites exist • Regular village clean-ups take place
Cultural	• 6 monasteries • 1 temple	• All in a dilapidated condition • Garbage needs to be managed
Security and trade	• 5 police posts • 1 customs office	• No police posts or customs office exist after the Maoist destroyed in 2002
Local government	• 4 VDC office buildings	• Not rebuilt after Maoist bombed in 2002
KCA Management	• Head office in Lelep, 3 sector offices with 2 visitor information centres	• Own buildings in Lelep & Ghunsa, and fully equipped sectoral offices & liaison office at Taplejung district headquarters

Sources: KCA-MC 2005, own data 2004/2005

14 Most of the community infrastructure such as sanitation, alternative energy, trails/bridges and tourism were installed by the KCAP in partnership with local people, the DDC/VDCs and other development agencies (Chapter 6, Section 6.2.4).

According to the KCA-MC (2005), the average literacy rate of the KCA inhabitants stands at 43% (33% female and 53% male). The rate has slightly improved compared to the average of 36% (23% female and 48% male) reported by Dhakal in 1996. Traditionally, children, especially girls, were forced to discontinue their schooling in favour of contributing to the family income by looking after domestic animals and participating in (off- and on-farm) household activities (Dhakal 1996). This scenario has considerably changed since 1999 and the enrolment of girls in school has increased and their drop out rate has decreased (SAMANATA 2001; WWF-NP 2001b; Mountain Spirit 2003). The endowment fund, created by the KCAP in partnership with mothers' groups, for girls' education and income generation activities has played a major role in girls' schooling (Mountain Spirit 2003; WWF-NP 2003, 2005b; Locher 2006).

About 600 girls and 700 boys study in 19 schools in the KCA, and many of them studying in grades 6–10 have to walk more than an hour to reach their schools (KCA-MC 2005). Very few live with relatives and some venture to Phungling Bazaar and beyond for further studies. There is a girls' hostel in Lelep and a childcare centre in Hellok, established by the KCAP. The hostel accommodates 15 girls coming from other villages to attend the only secondary school serving Lelep, Tapethok and Walangchung-Gola VDCs. Another secondary school is located in Yamphudin. From the KCA, 64 women and 175 men have attained School Leaving Certificate (SLC) level education and 97 have pursued higher education (KCA-MC 2005). Likewise, 295 women and 56 men have completed literacy courses conducted by the KCAP since 1998 (Mountain Spirit 2003).

Unreliable electricity for lighting is available to Lelep and Walangchung-Gola villagers. Hundreds of the poorest of the poor Rai and Limbu households from Tapethok and Lelep VDCs have gained access to solar panels for lighting through the KCAP with support from Kadoori Agriculture Aid Agency (KAAA). These solar sets are distributed based on the outcome of a settlement-based participatory selection approach known as the 'well-being ranking', which differentiates the poorest households from the poor and well-off households (WWF-NP 2003). In fact, distributing highly subsidised solar lighting sets to the poorest households created pressure among many richer families, which led to individual purchases of solar sets from China. A detailed micro-hydro design and estimate for the electrification of Yamphudin, Tapethok/Hellok, Ghunsa and Lungthung was completed by the KCAP (WWF-NP 2001d). The WWF-NP and the KAAA are in the process of installing micro-hydro schemes at Lungthung and Ghunsa.

Six poorly equipped health posts provide limited services to the KCA inhabitants. The KCAP has provided mobile health camps and supported health posts with financial assistance to purchase additional medicine, which is still far less then their requirements (Mountain Spirit 2003). A hospital with a doctor and nurses is only available at the district headquarters, Taplejung. The means of communication with the outside world are through the postal service and the KCAP's wireless radio communication sets.

Most of the drinking water schemes installed by different development organisations in the past are not functioning due to increased demand, decreased water flow and poor management systems (Dhakal 1996). However, many local people from Gola and the lower

belt inhabitants of Lelep VDC praise the social mobilisation, sanitation and community infrastructure development efforts of the Mechi Hill Development Project (MHDP) of SNV Nepal. The MHDP was phased out in 1999. In fact, savings and credit schemes by women's groups were first introduced by the MHDP in Lelep village, and later expanded and formalised by the KCAP in the form of mothers' groups. Trail repairs in the Lungthung area, drinking water installation in Gola and a 1 kilowatt micro- hydro scheme in Lelep are some of the notable community infrastructure development efforts of the MHDP. Similarly, the Gola micro-hydro electrification scheme is a decade long effort of the Remote Area Development Committee (RADC). Most of the drinking water schemes and the trails/bridges repaired and installed by the KCAP in partnership with the KAAA, the Taplejung DDC and Bridge Building at Local Level (BBLL) remain functional (Mountain Spirit 2003; WWF-NP 2004; Chapter 6).

Among the past development efforts of the state government in the Kangchenjunga area, two specific projects are worth describing here. The Small Farmer Development Programme (SFDP) was implemented in Tapethok in 1993, followed by Production Credit for Rural Women (PCRW) in 1994 in order to reduce poverty and/or improve the livelihoods of the poorest households, particularly in Tapethok VDC (Dhakal 1996). Nonetheless, neither project seems to have contributed to raising the living standards of the local people from Tapethok VDC. Most of the poor farmers who took loans from the SFDP are still unable to pay back their loans and free collateral lands, and Tapethok remains the poorest among the four VDCs of the KCA.

5.3 Conclusion

There is a strong relationship between the people's way of life/beliefs and natural resources management practices in the KCA. The faunal and floral diversity found in the area is living proof of the co-existence between nature and humans. The key issues, from the perspective of the KCA inhabitants, seem to be community infrastructure and socio-economic development. In other words, the need to improve and/or install trails, bridges, electricity, drinking water schemes, irrigation, tourism facilities, education/schools, grinding mills, health care services, sanitation facilities, income generating activities, livestock development, monastery/temple repairs and forest-based cottage industries. In contrast, the primary interest of conservation agencies is to protect the biological diversity of the area, which is perceived to be under threat due to the poaching of endangered species, deforestation, slash-and-burn farming and the unsustainable use of forest, resources leading to habitat and biodiversity loss.

The situation of the KCA is that people are highly dependent upon natural resources for their subsistence livelihoods and basic community infrastructure and social services remain poor in the area. Hence, the increasing needs of the growing population, together with poverty, are likely to threaten the co-existence between nature and humans, as the exploitation of natural resources in every possible way is a compulsion for survival for the overwhelming majority of the KCA inhabitants. Nevertheless, the future of the KCA appears promising if projects like the KCAP continue to explore innovative ways and means to utilise the abundantly found natural resources sustainably and if initiatives are taken to complement conservation efforts through the promotion of less natural resource dependent livelihood options.

Lelep Village and has three sector offices in Ghunsa, Walangchung-Gola and Yamphudin, as well as a liaison office in the district headquarters at Phungling Bazaar, Taplejung and a visitor information centre cum check post in Chhiruwa to carry out project initiatives.

The Project Manager, deputised by WWF-NP, and the Coordinator (Warden), deputised by the DNPWC, jointly head the KCAP in partnership with representatives from local organisations. The day-to-day project implementation is carried out by sector office personnel—including the DNPWC rangers, finance and administrative officers employed by WWF-NP and locally hired field staff—in partnership with local user groups (WWF-NP 1999; Mountain Spirit 2003; WWF-NP 2005b). Since 2004, the Kangchenjunga Conservation Area Management Council (KCA-MC)[1] (Appendix IX) has taken the lead role in project implementation.

The WWF-NP head office in Kathmandu provides the required technical supervision and logistical support and the DNPWC mainly renders policy and legal support to the KCAP. The project is largely financed by the WWF network (mainly WWF-US and WWF-UK), foundations (e.g., MacArthur-US) and supported by a few private donors (Mountain Spirit 2003; WWF-NP 2005b). The average yearly project budget for the first two years was about US$80,000 (WWF-NP 1998, 1999) and over US$200,000 per annum thereafter (WWF-NP 2003, 2004, 2005b). Altogether, approximately US$1.2 million has been invested in the area by WWF-NP between 1998 and 2004. Local communities and other conservation and development partner institutions have contributed additional investments. On the basis of clear working modalities and the enhanced capacity of community-based organisations, the KCAP has been able to spend over 90% of its budget on the execution of planned activities (Mountain Spirit 2003).

6.1.3 Innovative Approach

The transfer of KCA management responsibilities, from the then HMG/N to the KCA-MC, began in 2005 with the preparation of the KCA Management Plan and the KCA Regulations 2005. The handover marks a new era in protected area management nationally, as well as in international contexts. This is the very first time that a community-based organisation has been entrusted with the responsibility of managing a project area of this scale and importance (WWF-NP 2005b). Table 6.1 presents the major achievements and events, in the history and development of the KCAP, chronologically.

1 The Kangchenjunga Conservation Area Management Council is also referred to as the Council hereafter.

Table 6.1: Major Events and Achievements of KCAP in Chronological Order

Date	Events and Achievements
1994	WWF-NP/DNPWC conducted a feasibility study in Kangchenjunga region to collect baseline information.
1995 (Nov)	Kangchenjunga Project endorsed by the MFSC.
1996	WWF-NP/DNWPC formulated and conducted biodiversity, socioeconomic and tourism studies in Kangchenjunga area to assess conservation and socio-economic conditions.
1997	WWF-NP/ICIMOD sponsored a regional consultation on the conservation of the Kangchenjunga Mountain Ecosystem in Kathmandu to explore the Tri-nations Peace Park concept.
1997 (29 Apr)	Kangchenjunga region declared a 'Gift to the Earth' by HMG/N in support of WWF's Living Planet Campaign.
1997 (21 Jul)	Core area of 1,650 sq. km of the Kangchenjunga region conferred protected area status and declared a Conservation Area by HMG/N based on ecological boundaries.
1998 (22 Mar)	WWF-NP/DNPWC launched KCAP by establishing the project head office in Lelep, and sector offices in Ghunsa, Walanchung-Gola and Yamphudin.
1998 (14 Sep)	KCA boundary extended from 1,650 sq. km to 2,035 sq. km to facilitate community-based conservation area management by including all the remaining areas within the political boundaries of Tapethok, Lelep and Yamphudin VDCs.
2000 (4 Sep)	HMG/N published a gazette notification of the Conservation Area Government Managed Regulations 2000 (2057 BS*) to enable the management of the KCA in partnership with local inhabitants and their organisations.
2001 (13 Jul)	Supplementary agreement signed between MFSC and WWF-NP to ensure a five-year funding commitment from WWF.
2004 (14 Jan)	HMG/N provided a letter of intent to the KCA-MC to prepare a Five Year KCA Management Plan and Regulations under the Government's Protected Area Privatisation Policy 2004 in order to facilitate the handing over of management responsibility to the local KCA-MC.
2005	The DNPWC submitted the KCA Management Plan (2005-2009) and the KCA Management Regulations 2005 to the MFSC for HMG/N's endorsement.
2006 (mid)	The Government of Nepal was expected to publish a gazette notification of the Kangchenjunga Conservation Area Management Regulations 2005 (2062 BS*) to provide a legal framework for the KCA-MC and its sister institutions for the effective and long-term management of the area.
2006	The Government of Nepal is expected to hand over ownership and responsibility for the management of the KCA to the KCA-MC, according to the legal framework and the five-year management plan.

*BS stands for Bikram Shah and refers to the Nepali calendar
Source: KCA-MC 2005, own data 2004/2005

6.2 Project Activities

6.2.1 KCAP Interventions

The KCAP has devised and implemented a number of programmes and activities, as presented in Table 6.2, in order to achieve the dual objectives of biological diversity conservation and livelihood improvement of the local inhabitants of the KCA.

Table 6.2: Summary of Main Programmes and Activities of KCAP (1998-2005)

	Programmes	Main Focus and Activities
OBJECTIVES	**Nature Conservation**	Forest/wildlife programmes including biological research, monitoring and specific conservation awareness activities focused on NRM.
	Forest	Encroachment control, plantations, monitoring and management training
	Wildlife	Monitoring, anti-poaching, depredation control, wildlife insurance
	Sustainable Development	Gender mainstreaming and sustainable development awareness are cross cutting themes with a focus on skill development and technology transfer based on the results of gender disaggregated socio-economic studies and gender sensitive annual participatory needs assessments.
	Basic social services	Trails, bridges, drinking water, schools, child care centres, girls hostels, sanitary toilets, health posts, drainage, mobile health camps clean-up campaigns, hygiene awareness camps, multi-purpose nurseries
	Income generation	Goat keeping, piggery, poultry, carpentry, sewing, knitting, horticulture, carpet weaving/cutting, small shops, chiraito farming, petty trade
	Tourism and heritage	Garbage clean-ups, cook/porter/guide training, sign boards/posts, snow poles, visitor information centres, camp sites, tourism awareness, monasteries, temples, cultural sites
	Alternative energy	Kerosene depots, back-boilers, improved cooking stoves, solar lighting, micro-hydro schemes
MEANS	**Capacity Building**	Build KCA institutions/infrastructure and train project staff and local women/men to provide them with the infrastructure, knowledge and skills to build, transform and strengthen local institutions with a specific focus on women empowerment and leadership development.
	Local KCA institutions	Non-formal education, girl education, eco-clubs, extensions and study tours; and brochures/leaflets, audiovisual/cultural shows, quizzes, public interactions, environment days, gender sensitisations and street dramas
	Education and awareness	(Same as above for local KCA institutions)
	KCA infrastructure	Lelep head office, three sector offices, one visitor information centre equipped with furniture and radio communication sets
	Communication	Inform people about the project by coordinating at all levels, working directly through CBOs and making project related information publicly accessible, in Nepali and English, with a focus on transparency. Brochures, leaflets, tourist guide book, quarterly newsletter, annual project and research reports accessible to public; and workshops, media interactions, stakeholder consultations, joint evaluations

(contd.)

MEANS	**Partnership Development**	Work in partnership with conservation and development organisations and research institutes at local, national and international levels. KMTNC/ACAP and KCAP staff exchange programme and study tours; KAAA, BBLL and DDC Taplejung for infrastructure development; many national and international universities and research institutes

These interventions are designed and executed based on study findings (feasibility, socio-economic and biological studies), lessons learned from other ICDPs and annual needs assessments. All project interventions directly and/or indirectly emphasise building and enhancing the capacity of local people (e.g., women, men and children) and their institutions to ensure that activities are effectively and efficiently implemented and sustained in the long run.

Among the five programmes presented in Table 6.2, nature conservation and sustainable community development are the main objectives of the project. Capacity building, communication and partnership development are the means to achieve the set objectives, ultimately contributing to the long-term conservation of biological diversity. The implementation process for each programme is presented in following section.

6.2.2 Capacity Building

The KCAP has established a complex management structure of community-based organisations (CBOs), as presented in Figure 6.1. The aim of this structure is to transform traditional institutions with modern conservation and development values and enhance local institutional capacity to assist with project initiatives and to manage the KCA, with reduced outside support, in the near future. All of the management institutions in Figure 6.1 were legitimised and are regulated by the Conservation Area Government Managed Regulations 2057 BS (2000) until 2005, and will function under the Kangchenjunga Conservation Area Management Regulations 2062 BS (2005) from 2006 once, and if, the government endorses the draft regulations.

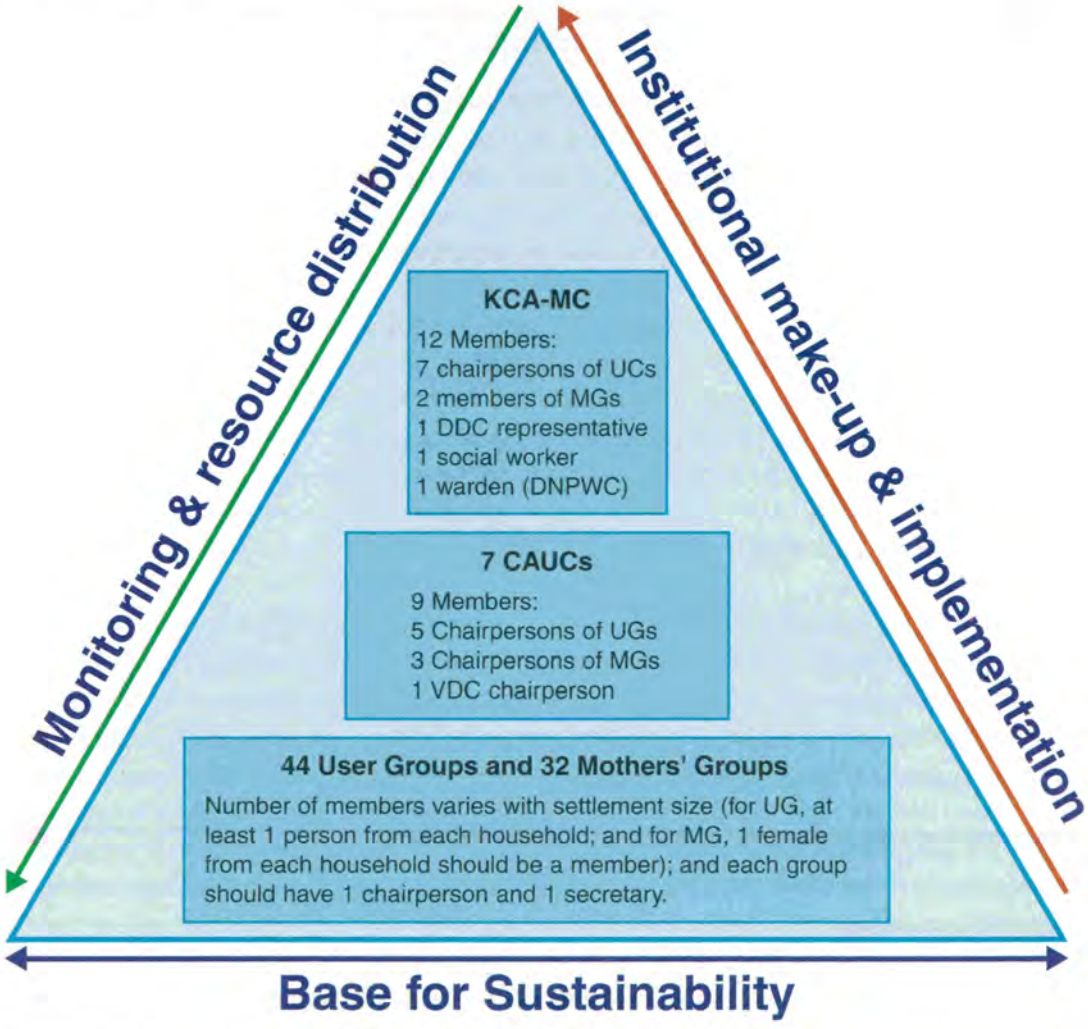
The institutional make-up and structures of the KCA are the same under the both regulations, but amendments have been made to the responsibilities and authority of local institutions, in line with the KCA management handover to the Council (Appendix VI). The most important amendment is that the draft 2005 Regulations provide for the sustainable harvesting of plants and animals, not listed in the national red list and the CITES list, making more room for sustainable financing mechanisms and minimising human-wildlife conflict.

The 44 user groups (UGs) and 32 mothers' groups (MGs[2]) are the foundation of the local organisations. The MGs and UGs are formed in each settlement for practical reasons, and each household is represented by at least one member in each group. Their representatives form the seven Conservation Area User Committees (CAUCs) and finally the Kangchenjunga Conservation Area Management Council (KCA-MC). The CAUCs are responsible for the implementation of conservation and development initiatives through UGs and MGs. The KCA-

2 Mothers' group is a label adopted from the Annapurna Conservation Area to avoid political connotations, as there are many women groups affiliated with different political parties. The MGs are formed at settlement or village level and every woman is eligible for membership regardless of age, caste, ethnicity or marital status.

MC is primarily responsible and accountable for resource distribution, monitoring and the overall management of the area, as illustrated in Figure 6.1.

Figure 6.1: Management Structure of KCA



Source: own illustration based on WWF-NP 2001, 2004

There are two CAUCs per Village Development Committee (VDC), except in Walangchung-Gola, which has only one CAUC, as a result of having a smaller population and fewer settlements compared to the other three VDCs. The VDC chairperson in the CAUCs and the District Development Committee (DDC) representative in the KCA-MC are mandatory members to ensure an effective partnership with local government, to improve coordination and to avoid the duplication of conservation and development initiatives in the area. It is important to create a collaborative management framework between the KCA-MC and the DDC as the Local Self- Governance Act 1998 authorises the DDCs/VDCs to manage their natural resources, directly conflicting with the National Parks Act 1973 and Conservation Area Regulations 2000.

There are other sub-user groups such as the Snow Leopard Conservation Committee (SLCC), community forestry user groups (CFUGs), eco-clubs, eco-youth clubs, hotel management committees (HMCs) and a number of action oriented user groups to address specific conservation and community development needs at site level. These local institutions are based on a combination of traditional and modern conservation values, interests and priorities. None of the traditional institutions were dissolved while establishing the KCA institutions. Instead their strengths and potentials were incorporated into new community-based organisations (CBOs). For example, the informal women's groups became mothers' groups and village level institutions became user groups and so on. Similarly, *kipat* and grass-cutting institutions continue to function within the framework of the newly created KCA institutions (Chapter 5.2.2, Table 5.4). The key difference can only be observed in the decision-making process, as communal decisions are now made more consultatively than before.

One of the innovations in the KCA institutional setup is the legitimatisation of MGs as a separate entity. The representation of MG members in UGs, CAUCs and on the Council allows women to participate and voice their concerns at all levels of the decision-making process. This is the first time in the history of protected area management in Nepal that 30% representation of women in CAUCs is legally ensured. This proportion of representation is considered desirable to enable the voicing of the unheard voices (Dahlerup 1998 in Locher 2004, p.90). This innovation has already been replicated in the buffer zone (BZ) institutionalisation process of national parks with BZs.

A lot of effort was made while forming the KCA institutions to achieve membership by consensus nomination, rather than by democratic election, in order to avoid conflict between and among the political parties in the unstable political situation (WWF-NP 1998, 1999, 2004). After discussing the MG, UG, UC and KCA-MC formation procedures, the villagers were requested by the KCAP to come up with a list of members agreed by all the major political parties and other interest groups. Here, the local women and men negotiated among themselves for their representatives. As a result, the MGs, UGs, UCs and the Council members were either nominated by consensus or elected (for 2 MG representatives) unanimously, and therefore, no formal elections were held (WWF-NP 1998, 1999, 2001d, 2003, 2004). However, enormous challenges were faced in achieving central level policy endorsement and during field project implementation as the central government changed every six-month during the initial phase of the KCAP and the insurgency took over thereafter. The project suffered heavy public criticism in 1998 when the CAUC members were nominated (including women, a social worker and a representative from a disadvantaged ethnic group) to form the first CAUC based on the Conservation Area Regulations 1996, which were developed for the Annapurna Conservation Area (ACA) managed by the KMTNC (the ACA has no council yet).

As a result of the public outcry and difficulty in forming the remaining CAUCs and the Council, the Conservation Area Regulations 2000 were prepared—with limited public consultation—and gazetted, giving birth to MGs as a separate legitimate entity. There were two main reasons why there was low community consultation while formulating the 2000 Regulations. Firstly, the Conservation Area Regulations being applied in the ACA provided a sufficient precedent for the drafting of the Regulations. Formulating the regulations was made easer

as the project manager (author) had the experience of drafting and implementing the ACA Regulations. Secondly, there was an immediate need to legally empower local communities by creating ownership over their resources, and to clarify the status of the KCA, i.e., as a national park or conservation area.

After 10 years of ICDP work in the neighbouring Makalu-Barun area, the area became a national park and BZ instead of the initially proposed conservation area due to various reasons, including the project's inability to facilitate policy reform process. This provided sufficient fuel for the sceptic's views regarding the KCA management regime. During the project inception phase, hardly anyone from the KCA wanted a national park regime, making project implementation extremely difficult (WWF-NP 1998).

The 2000 regulations provide a platform for the consensus nominations and/or democratic election of women representatives in the CAUCs and on the Council, rather than top-down nomination by the Warden. These new Regulations provide also an opportunity for women to negotiate their concerns with their male counterparts and successfully address strategic gender needs (Mountain Spirit 2003), compared to other political bodies and well-known ACA institutions (Locher 2006). However, the MGs are only effective in making decisions and implementing conservation and development activities at the group or settlement level, not yet at the CAUC and the Council levels (Mountain Spirit 2003; Locher 2006). The KCAP has emphasised the building of institutional capacity at the UG and MG level to minimise leadership gaps and ensure able members slowly reach the CAUC and the Council level where the most important resource distributions and policy decisions are made. The KCAP head office at Lelep (Photo 6.2) standing against the destroyed Ghunsa police office (Photo 6.3) could be seen as a by-product of the local ownership on the project resources, and the indication of strong partnership between the locals and the project staff.

Photo 6.1: Yongma Mothers' Group Members and KCAP Ranger Mr Ugal K. Thakur after receiving the Abraham Conservation Award in 2003 for their outstanding conservations efforts.

Source: WWF-NP

Photo 6.2: KCAP Head Office at Lelep

Source: WWF-NP

Photo 6.3: Destroyed Ghunsa Police Post

Source: M. Kollmair

The KCAP has established physical park infrastructures and human resource capacity for the sustainable management of the area through its head office in Lelep and sector offices in Ghunsa, Walanchung-Gola and Yamphudin villages, all with their own office buildings (except in Walanchung-Gola), well equipped with furniture and radio communication sets, and mainly run by over 70% locally hired and trained project staff (Mountain Spirit 2003; WWF-NP 2002, 2004). However, the filed offices of the KCAP remained officially closed between December 2004 and March 2005, mainly due to the project's refusal to pay "10% revolutionary tax" to the Maoist, but re-opened in April 2005 with growing public pressure.

6.2.3 Nature Conservation

The primary objective of the KCAP, nature conservation, is achieved by the implementation of private and community plantations, the control of forest fires and deforestation, community forestry projects, the protection of non-timber forest products and medicinal plants, wildlife monitoring and anti-poaching operations (Mountain Spirit 2003; WWF-NP 1999, 2004, 2005b). The KCAP staff, Snow Leopard Conservation Committee (SLCC) members and the members of the Council and its sister organisations are directly involved in wildlife monitoring and anti-poaching operations (Mountain Spirit 2003; WWF-NP 2003, 2004; Toccoli 2004).

The project emphasises the conservation of endangered species such as the snow leopard, musk deer, Himalayan black bear, red panda and prey species like blue sheep (WWF-NP 2000; Mahato 2003; Toccoli 2004; KCA-MC 2005). Mountain Spirit (2003) and Toccoli (2004) report that the project's conservation awareness activities and the direct involvement of local people in wildlife monitoring are effective and recommend continued monitoring (at least three times a year) and awareness generation activities to minimise wildlife poaching. The need to involve more local people in wildlife monitoring and other project activities for wildlife conservation, as well as local income generation, was deemed evident (Loksam 2003; Toccoli 2004).

Photo 6.4: Local KCAP staff member Mr Himali C. Sherpa monitoring Snow Leopard movement (fresh pug marks on snow and urine marks on rock) in Ghunsa valley.

Source: WWF-NP

Wildlife depredation issues are of major concern (Loksam 2003; WWF-NP 2003, 2004; Toccoli 2004). Project staff, together with local inhabitants, have come up with innovative strategies to address such issues (WWF-NP 2005a). Livestock rearing is one of the main livelihood strategies in the upland communities of the KCA. As a result, livestock losses have a significant economic impact on the community, often leading to the retaliatory killing of snow leopards by livestock herders (WWF-NP 2004). The livestock insurance scheme (Box 6.1), by providing compensation for any loss incurred due to livestock depredation by snow leopards, has not only increased the livelihood security of livestock owners, but has also mitigated the retaliatory killing of snow leopards.

Box 6.1: Community-Managed Livestock Insurance Scheme

An endowment fund of NRs.1,200,000 (about US$16,900), supported by NCCR North-South through the Department of Geography, University of Zurich, Switzerland in collaboration with WWF-NP, was set up at the Taplejung Bank in December 2005. The endowment fund generates interest of around NRs.36,000 (about US$500) per annum. This interest is used to reinforce the premium (NRs.50 per yak) fund, only when losses incurred are higher than calculated, and also to repay the premium with 3% interest at the end of every year. In addition, a community-based verification mechanism was established. The mechanism entails the Snow Leopard Conservation Committee (SLCC) verifying individual claims before compensating. This is expected to mitigate some of the inherent risks associated with insurance, such as fraudulent claims. Moreover, provision is made to distribute any surplus funds as a no claim bonus at the year's end. The no claim bonus will increase as compensation claims decrease, ensuring better monitoring of claims made and an incentive for livestock owners to proactively guard their herds, as only those owners who do not make a compensation claim will be entitled to this surplus fund. The locally collected premium fund is locally invested as the interest is higher (25%) than the interest for bank deposits (3%). This also helps to generate local income from the investment and increase the endowment fund.

Source: modified from Hughes and Flintan 2001

The insurance concept is a by-product of the author's previous work experience (that matched the NCCR North-South's research framework) and the specific objectives of IP6 and PAMS. The initial results indicate that it is possible to create functioning participatory mechanisms to reconcile wildlife conservation and people's livelihood needs in a collaborative manner. This requires building trust between the conservation agency and local people, particularly livestock owners and herders. Trust can only be built over time. It took over a year (2003–2004) for KCAP to agree on the mechanisms for the insurance scheme, even though the project had been operational since mid 1997 and the SLCC was established in 2001 (WWF-NP 2001). The main reason for delay was that the KCAP was unwilling to create the endowment fund, without ensuring a sufficient level of insurance premium and the local ownership (i.e., SLCC) on the scheme; whereas the livestock owners wanted a scheme without or with insurance premium, unacceptable to the project.

The KCAP regularly conducts village level awareness programmes and interactions (on health and sanitation, wildlife, forests, social, development, etc.) to inform villagers about the importance of conserving natural resources and wildlife (WWF-NP 1999, 2000; Toccoli 2004; Locher 2006). Project staff also make regular household visits to pick up conservation and development issues at the individual and household level that normally do not emerge during public interactions and needs assessments (WWF-NP 1999, 2001).

Awareness generating activities (such as audiovisual shows, street dramas, quizzes and clean-up campaigns) are conducted regularly (WWF-NP 1998, 1999, 2000). According to Mountain Spirit (2003), more than 1,500 local people participated in the audiovisual shows on deforestation, the importance of education, ecotourism, wildlife conservation, child marriage and slash-and-burn farming. The programme significantly contributed to generating public awareness and community mobilisation regardless of age, sex or ethnic groups. The KCAP Anniversary and Wildlife Week are the main celebrations along with Earth Day and World Environment Day. Project staff participate in local festivals, singing and dancing with the villagers and performing dramas to develop rapport and convey conservation messages (WWF-NP 1998, 1999). Youth groups and eco-clubs (for school children) have been formed to magnify and sustain the project's awareness programmes (WWF-NP 2001; Toccoli 2004).

Photo 6.5: Snow Leopard Conservation Committee and KCA-MC members discussing the livestock insurance scheme with KCAP staff and researcher at Taplejung in 2005.

Source: WWF-NP

The KCAP understands that conservation in poverty stricken area like KCA is a losing battle without community trust and support. The project has adopted the local way of life with a low keyed presence in the field and a 'do as the Romans do in Rome' approach as the

core value to gain community trust for smooth project implementation (WWF-NP 1998). The project staff participate in local events and development activities, respect and promote traditional values and cultures, and, as a result, have had a significant positive impact on fostering trust and partnership between the project and local communities (WWF-NP 1998; Mountain Spirit 2003). This locally sensitive development approach is one of the most important lessons learned from the ACAP and has successfully been replicated in the KCAP.

To reduce fuel-wood consumption, two kerosene depots[3], hundreds of solar lighting sets and over 100 back-boiler (to heat water while cooking) systems with improved stoves have been installed. Out of five micro-hydro schemes designed, two schemes are in the process of implementation. The project has also established three multi-purpose nurseries with a total capacity of 40,000–60,000 saplings (e.g., trees, fodder trees and fruit trees), which are managed by mothers' groups (Mountain Spirit 2003; WWF-NP 2004; Locher 2006). Tree seedlings are planted on community and private lands and fruit and fodder tree seedlings are planted close to houses on private land. Plantation is promoted as a means to generate conservation awareness, rather than as a solution to deforestation (WWF-NP 1999), and has been found to be effective (Mountain Spirit 2003).

Photo 6.6: Changes Brought by Alternative Energy Programme for a Tapethok Household

Source: WWF-NP

6.2.4 Sustainable Development

To sustain community infrastructure 'hardware' and to continue to make progress, the KCAP runs local capacity building or 'software' activities such as literacy, girl education, public interactions, exposure/study tours, as well as awareness camps, street dramas, audiovisual shows and numerous skills development trainings. The project also regularly provides training on social mobilisation, gender sensitisation, sustainable development awareness, forest and tourism management, office management, book keeping and leadership development for local women and men, as well as for project staff (WWF-NP 1999; Mountain Spirit 2003; WWF-NP 2005b).

The KCAP has implemented multiple community infrastructure development activities based on feasibility studies, gender disaggregated socio-economic research recommendations and annual gender sensitive participatory needs assessments carried out by the project (WWF-

3 Trekkers are required to use kerosene, or alternative fuel to firewood, for cooking and heating purposes in protected areas since 1993. These depots are primarily established to facilitate enforcement of this government policy.

NP 1999, 2004). Multiple participatory tools are applied to ensure that the equitable benefits of project interventions are shared at all levels (e.g., individual, household and settlement level). The project employs an adaptive and flexible activity implementation strategy to enable it to respond to changing community aspirations, priorities and political environments, as well as the changing availability and sources of funding. The main initiatives include repair, maintenance and installation of community infrastructures (WWF-NP 1998, 2005b; Chapter 5.2.4, Table 5.6). Due to the internalisation of the value of community participation, local contributions to infrastructure development activities, in cash and kind, constituted between 16–49% of the total estimated cost (Mountain Spirit 2003), exceeding the 10% expected by the project. However, a few infrastructures, such as the sanitary installations in Pholey and the drainage system in Walangchung-Gola, were reported to be functioning poorly due to lack of community responsibility for their management (Mountain Spirit 2003) and project's inability to create community ownership of these services. Similarly, the Ghunsa and Gyabla drinking water schemes also suffered from the use of low quality construction materials (e.g., pipes) and weak community participation.

Among the basic community infrastructures, safe bridges over fast flowing rivers (often life threatening) are one of the main community development priorities. Investment intensive activities are also a high priority. In the initial phase, the KCAP carried out a lot of repair and maintenance work on wooden bridges in collaboration with the Taplejung DDC. The project was able to install high quality suspension bridges with metal decks after developing partnerships with development organisations (Chapter 6.2.5, Photo 6.7). These metal bridges are not only durable and safe for crossings, but they also require less timber and therefore contribute to conservation.

One of the most noticeable development activities of the project is the establishment of 32 mothers' groups (MGs) with 32 endowment funds for savings-credit schemes to generate income at the household level and educate disadvantaged girls (Loksam 2003; Mountain Spirit 2003; Locher 2006). The endowment fund serves a dual purpose by generating income for women and their households and educating girls whom otherwise could never complete schooling (WWF-NP 2000). The first two batches of recipients of the girls' scholarship graduated from school, went on to complete higher secondary school in Taplejung and are currently employed.

Photo 6.7: Bridge upgraded by KCAP in collaboration with KAAA.

Photo: WWF-NP.

The availability of cash at the village level plays a profound role in the livelihoods of local people, as their access to commercial banks is limited due to distance (e.g., most banks are at least a few days walk), complicated money lending rules (e.g., requiring collateral, a guarantor and paper work) and relatively high interest rates. As a

result, most locals took loans from village money lenders prior to the establishment of the MGs' endowment funds. Indeed, the majority of KCA inhabitants (more in the case of poorer households) require loans primarily to buy food before the harvest, clothes and for other subsistence purposes, including medical treatment.

Photo 6.8: The only girls' Hostel in KCA built by KCAP and the local community.

Source: WWF-NP

The KCAP began the savings and credit endowment fund in 2,000 with NRs.10,000 (about US$140) per MG as 'seed money' to improve access to cash for women as a step towards economic independence. Based on the positive impact of the seed money scheme on income generation at the individual woman and household levels, and intense local demand, the project invested an additional NRs.50,000 (about US$700) per MG in 2001 (WWF-NP 2002). The savings and credit endowment fund grew from NRs.1,920,000 (US$26,300) in 2001 to almost double, i.e., NRs.3,093,770 (US$42,380) by December 2004 (Appendix VIII), due to the monthly savings of MG members, interest earned from investments and other activities, such as welcoming village guests including trekkers. Furthermore, the mothers' groups have spent over NRs.355,000 (about US$4,900) on girls' scholarships and community development activities such as the repair and maintenance of trails, bridges and religious sites and various conservation activities like garbage management, plantations, forest monitoring and forest fire control.

All of the MG members access loans[4] from the endowment fund for income generating activities and family affairs, and priority is given to the poorest households (WWF-NP 2001, 2002, 2003, 2004, 2005c). A few women have chosen not to become members (either because they don't need a loan or due to internal community conflict) and a few women from isolated settlements are unable to become members due to their inability to participate in meetings and other mothers' group activities (WWF-NP 2001; Locher 2006). The 10–15% interest rate normally fixed by MGs is higher than the 3–5% interest rate paid by banks for fixed deposits. However, it is much lower then the 30–60% interest rate charged by village money lenders and the 17% or higher interest rate (with collateral) charged by lending banks. Therefore, the fund greatly benefits mostly poorer households who depend upon such loans for sustenance (Mountain Spirit 2003; Locher 2006). This relatively high interest rate (than fixed bank deposits) helps to grow the endowment funds and provides an adequate stipend for poor school girls. The MG members make monthly forced savings (normally between NRs.10 to 15 each) towards the girls' scholarships and to enlarge their savings and credit scheme. The endowment fund is distributed as loans among the members for periods of six months to one year,

4 Each mothers' group functions as per its constitution and makes institutional decisions collectively and independently regarding the endowment fund management i.e., the terms and conditions of loans.

allowing enough time for each member to invest in income generating activities. This scheme has been one of the most successful mechanisms created by the KCAP to continue funding girls' education, to ensure savings and to generate income at the household level.

To introduce the concept of integrated conservation and development project (ICDP) in a practical sense, many local women and men, local government (DDC and VDC) representatives and project staff were taken on study tours to the ACA (Ghandruk), Royal Chitwan National Park/Buffer Zone and Royal Bardia National Park/Buffer Zone and other community-based development model project sites to learn about and observe the impact of ICDPs. In the initial phase of the project, the study tours enabled the KCA inhabitants to observe the difference between national park and conservation area management regimes. The study groups also visited Nepal's model villages, such as Madhan-Pokhara and Sirubari to understand community-based development approaches, and Kathmandu to interact with the DNPWC and senior WWF officials.

In recent years, the KCAP has become well known locally and at the district level as an example of an integrated conservation and development project that is working for conservation and community development (Mountain Spirit 2003). The KCAP's development of community infrastructure, support of mothers' groups, skills development and institution building programmes are appreciated by most local people due to their direct positive impact on local livelihoods (Mountain Spirit 2003; Locher 2006).

6.2.5 Communication

The KCAP has given priority to maintaining transparency in project implementation. This has been promoted through stakeholders' coordination meetings at the local, district and central levels; public interactions; workshops; joint project evaluations; journalist visits; the publication of a quarterly newsletter in Nepali language; and public auditing in recent years (WWF-NP 1998, 2001, 2003, 2005c). District level coordination has improved since the project established its liaison office in the district headquarters at Phungling Bazaar, Taplejung in 2002 (WWF-NP 2003, Mountain Spirit 2003).

The KCAP has made efforts to disseminate project related information to local people, as well as to concerned stakeholders, right from its inception by distributing brochures and leaflets, written in Nepali and English for wider coverage (WWF-NP 1998, 2005c). All of the research and project documents, including the annual project technical reports and the KCA management plans, are publicly accessible at the WWF-NP office in Kathmandu and the KCAP field offices, including the liaison office in Taplejung. These documents are available in a transparent way and are constantly used by both national and international researchers. Locally, most of the KCA local authorities, VDC representatives, school teachers and school children (e.g., eco-club members) use the project publications and reports.

Three specific examples of the way in which the KCAP has tried to maintain transparency are described here. The first example is the hiring of local project staff through public notice with the participation of the local VDC chairperson and other local representatives on the interview panel. This innovation in bringing local representatives into the staff selection

process, not only helps to select the best candidates, but also minimises conflict between the project management and the local and district political parties who are manoeuvring for their own candidate. This staff hiring approach was first applied when the first group of local people were recruited (WWF-NP 1998). The second example is the publishing of project activities, with income and expenditures (e.g., project, community and third party contributions), in a quarterly newsletter in Nepali language to inform the general public (WWF-NP 2001). Lastly, the impact of the project was jointly evaluated in 2003 by representatives from donor organisations (WWF-UK and WWF-US), project implementers (DNPWC and WWF-NP), independent evaluators (Mountain Spirit), local women and men (KCA institutions), local government (DDC and VDC), district based government line agencies, district based NGOs, major political parties and the KCAP staff (Mountain Spirit 2003).

6.2.6 Partnership Development

The KCAP has developed a series of partnerships with various local, national and international organisations working in conservation and development fields over the years. The first activity of the project was to conduct village level interactions to inform local people about the project, develop rapport and a deep rooted partnership with the local inhabitants (WWF-NP 1998, 1999). During the inception phase, a strong partnership was developed with the ACA to transfer the lessons learned from the ACAP to the KCAP as practically as possible through staff exchanges and study tour programmes (WWF-NP 1998, 1999).

Right from the inception phase, the KCAP has developed a partnership with district based NGOs to implement project activities. For instance, the non-formal education programme was implemented by districted based NGO *Nepal Mahila Udymi Sang*, trained by SNV's Mechi Hill Development Project, between 1998 and 1999 (WWF-NP 1998; 1999). Support has also been sought from the Taplejung DDC and district based government line agencies, as the project alone was/is unable to provide the financial and technical resources required to address the conservation and community development needs of the area (WWF-NP 1999, 2005b).

Since the second phase, the KCAP has forged a strong working partnership with development organisations like Bridge Building at Local Level (BBLL) and Kadoori Agriculture Aid Agency (KAAA) to scale-up project activities and address larger scale community infrastructure development needs, such as suspension bridges and alternative energy requirements (WWF-NP 2000, 2004, 2005b). With the facilitation of KCAP, the KAAA provided hundreds of solar sets for lighting and installed suspension bridges. KAAA is now ready to provide more solar sets and install micro-hydro electricity in Lunthung and Ghunsa, provided the security situation allows for smooth implementation. Likewise, the project has developed partnerships with the International Centre for Integrated Mountain Development (WWF/ICIMOD), The Mountain Institute (TMI), Resources Himalaya, Tribhuvan University, Kathmandu University, Minnesota University and the University of Zurich for conservation and research initiatives.

6.3 Project Implementation Strategies

The fundamental strategy of the KCAP is to work with local inhabitants and implement project interventions through local institutions. A wide range of participatory strategies/tools (Table 6.3) have been adopted and applied, from identifying conservation and community development issues/needs, to evaluating interventions in order to realise active and inclusive participation in decision-making processes and physical (e.g., time, labour or cash) contributions. Efforts are constantly made to maintain project and activity level transparency and accountability by providing project related information to the public in English and Nepali; facilitating regular external evaluations (SAMANATA 2001; Mountain Spirit 2003); taking donors to the field; and implementing project activities through user groups rather than individuals.

Community participation in project implementation is sought by addressing the very basic community development infrastructural needs such as trails, bridges, piped water, education and health care, as well as tourism management and crop and livestock depredation issues. In the KCA, community-based organisations (CBOs) are directly involved in the planning, implementation, monitoring and coordination of project activities (WWF-NP 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005c, 2005b). A serious attempt has been made by the project to address the fundamental weaknesses of participative conservation approaches (Kollmair et al. 2003), which has proved largely successful (Mountain Spirit 2003; Loksam 2003; Locher 2006).

Table 6.3: Summary of Participatory Strategies and Tools Applied in KCAP

Strategies/Tools	Applications/Implications
Door-to-door or household visits	Household visits are regularly made by project staff and help to identify various conservation and development issues that do not normally emerge in public meetings, interactions and group discussions.
Village extensions	Village clean-up campaigns, interactions (e.g., discussions on project objectives, activities, implementation modalities) and audiovisual shows on social and environmental issues contribute to awareness generation.
Participation and facilitation of community events	Cultural, religious, environmental and sporting (e.g., volleyball competitions that draw people from all walks of life) events increase community participation.
Participatory appraisal and stakeholder analysis	Directly involving local women, men, children and school teachers from KCA, as well as representatives from donors, MFSC and district-based governmental and non-governmental organisations (concerned stakeholders) in project design, implementation, monitoring and evaluation enhances effectiveness.
Appreciative inquiry	Identifying community strengths and assets and building upon and capitalising on their potential boosts peoples' self-confidence and encourages participation.
Well-being ranking	Prioritising livelihood improvement interventions with local women and men based on the socio-economic conditions of each household ensures that project benefits reach the poorest of the poor.
District level consultations	Interactions are conducted at least twice a year (planning and review) and contribute to coordination with district line agencies and help to avoid duplication of work.
Central level consultations	Ministerial and departmental level participation in KCAP planning, monitoring and evaluation enhances government ownership. KCAP jointly presents its programmatic budget to the project executive committee at the departmental level and the project steering committee at the ministerial level at least twice a year for review and endorsement.
Public auditing	After the completion of each project activity, a community meeting is held, to verify rates, quantities and total expenses (figures are written on play-cards and/or read aloud to everyone present in the meeting) and to seek community endorsement (all participants present agree to the stated figures as actual and sign to confirm the completion of public auditing) for improved transparency and accountability.

Source: compiled from WWF-NP 1998-2005c, own data 2004/2005

The project implementation strategies are based on long-term and phase-wise project interventions, with sustained community participation from the activity design stage to the evaluation of each project activity, as well as in the overall intervention. To exemplify phase-wise interventions, the initiation of small scale, yet urgently needed community developments projects (e.g. the repair and maintenance of trails, bridges, schools and drinking water schemes), were slowly scaled up by installing suspension bridges and initiating micro-hydro schemes. The project also made efforts to mobilise traditional institutions (e.g., women

groups, *kiduk, kipat* and religious groups) during the initial phase in order to transform them into UGs, MGs, CAUCs and finally the KCA-MC, in order to realise community-based KCA management.

Table 6.4: Summary of Phase-Wise KCAP Intervention Strategies

Intervention	Phase I 1998-1999	Phase II 2000-2002	Phase III 2003-2005	Final Phase IV 2006-2009
Objectives	Conservation and improvement of livelihoods	Conservation with sustainable development	Conservation with sustainable development	Sustainable conservation and development
Leadership	Project	Jointly led by project	Jointly led by locals	Local leadership
Institutional	Mobilisation	Transformation	Institutionalisation	Phase-out with back stopping
Partnership (Networking)	Conservation NGO, DDC Taplejung, district based NGO	Phase I partners and district based line agencies and development INGOs	Phase I & II partners and national and international research institutes	Phase I, II & III partners with increased involvement
Infrastructure Development	Repair and maintenance of basic community infrastructures (e.g., trails, bridges, schools)	Installation of medium scale community infrastructures (e.g., child care centre, girls hostel, bridges)	Installation of larger scale community infrastructures (e.g., suspension bridges, micro-hydro)	Enhance community infrastructures through knowledge and technology transfer
Conservation	Awareness and social mobilisation	Wildlife monitoring and research	Anti-poaching operations and livestock insurance scheme	Sustainable financing mechanism to address crop and livestock loss to wildlife
Staff	40% local	70% local	Over 70% local	Management by KCA-MC

Source: compiled from WWF-NP 1998-2005c, own data 2004/2005

The phase-wise intervention strategies summarised in Table 6.4 indicate the focus of each intervention phase, rather than details, as most of these strategies overlap through out the phases and are interactive in practice. For instance, the rationale behind the project objective and conservation awareness remain the same—even though the emphasis has changed over time to enhanced communication and understanding between the project and the local people. These changes were made intentionally by the project to smooth the project implementation process (Toccoli 2004) in the context of the changing political circumstances. There is a widely held view among the project staff and the local inhabitants that community cooperation and subsequent participation would have been severely jeopardised if wildlife

monitoring and anti-poaching operations were carried out during the inception phase when rumours about the restrictive management of the area as a national park with the involvement of the army were at their highest. Likewise, the basic community infrastructure development activities are implemented in all phases; the difference is evident only in scale (e.g., investment, size and number). Larger scale interventions, such as the construction of suspensions bridges, a child care centre, a girls' hostel and a monastery were carried out from the second phase onwards, in line with the local capacity to execute and manage such project activities. The growth in employment of local staff over time is not just because the project gives preference to locals, it also corresponds with growing local capacity and the growing need for human resources for project implementation. Under the changed political environment, the local Council is currently implementing most of the KCAP activities though local NGOs formed by local ex-staff members from KCAP and its sister institutions.

6.4 Conclusion

It took over three years for WWF-NP and DNPWC to move from feasibility study to initiation of project implementation; and over eight years to begin the handover process of the responsibility for the KCA management to the local community. This clearly demonstrates the time it takes and the challenges that participatory conservation projects face in establishing a community-based protected area management system required to address both biological diversity conservation and the sustainable livelihood needs of local inhabitants. Indeed, there are many ways and means to address biodiversity conservation and sustainable livelihood issues in the KCA and other protected areas elsewhere. The KCAP approach is just a beginning. It is one of the alternatives for sustainable conservation and needs to be pursued and improved to ensure promising results from second generation ICDPs.

7. CAN ICDPs RECONCILE BIODIVERSITY CONSERVATION INTERESTS WITH LIVELIHOOD NEEDS OF LOCAL PEOPLE? RESULTS AND DISCUSSION

This chapter is broadly organised into four sections. SThe first section appraises the views of local people on the KCAP. In light of the results in Chapter 5 and 6, the second section discusses the overall impact of the KCAP on forest and wildlife conservation, community development and on capacity building of the local people. The third section critically examines the ICDP principles and strategies applied by the KCAP, and briefly summaries the main results within the conceptual understanding of ICDPs. This section presents a discussion of the summary research results along with the potential and criticisms of people-oriented conservation approaches. A brief conclusion is drawn at the end in order to set the context for the concluding chapter.

7.1 Views of Local People on KCAP

The following section presents primarily how the local people and the respondents from Taplejung district headquarters perceive and assess the KCAP. The views of experts involved directly in the KCAP management are also incorporated.

> *"We have to stay awake all night to drive bears away when our corn is ripe. We can't cultivate our fields anymore because deer, bears, monkeys and many other wild animals keep on destroying our crops, which is a big problem."* Ms M. M. Limbu, Tapethok

> *"There is a strong perception across the community that the KCAP is providing all the development for the local people who have been neglected by the state government for so long, and their expectation for further development-oriented activities is also growing."* Mr R. B. Lamjel, Lelep

> *"I am sure the local people and the Council can manage the KCA. If this Council doesn't do well, we will bring more capable members the next time."* Mr M. B. Limbu, Tapethok

The above three quotations highlight the state of nature conservation (e.g., human-wildlife conflict), community development and the capacity of the local institutions in the KCA. As most of the data relating to natural resources was available from WWF-NP (Chapter 2.3.1.1) and the scientific investigation of biodiversity is beyond the scope of this PhD research, as well as a difficult concept for the locals to grasp, the views of the locals pertinent to wildlife and forest were gathered through interviews (Chapter 2.3.1). In fact, a detailed scientific inventory of biodiversity in the KCA is yet to be carried out.

7.1.1 Conservation of Wildlife and Forests

While examining the status of wildlife and forests through the eyes of the local people, the focus was on comparing the conditions/issues between 1998 and 2005 to understand the overall contribution of the KCAP over this period.

Wildlife: All the local respondents interviewed indicated a marked increase in wildlife after implementation of the KCAP interventions; more evidently observed since 2002 (Chapter 5.1.3). "Now we see kalij (*Lophura leucomelana*) like chickens and deer like goats around our village," said Ms P. B. Sherpa. Over 90% of local interviewees reported a substantial increase in barking deer, wild pig, blue sheep, tahr, porcupine, Himalayan black bear, monkeys and many species of birds (Table 7.1). Two local Sherpa herders estimated the snow leopard population to be 35, based on the recent killings of yak and blue sheep, pug marks and live sightings. Likewise, the KCAP staff estimate the population of snow leopards to range between 19 and 32, based on their monitoring reports.

Most of the experts interviewed agreed that there had been a growth in the number of herbivores, but were doubtful about an increase in the number of carnivores; contending that the recent sightings of snow leopards might be due to growing community awareness and improved monitoring activities, rather than an actual increase in number. Indeed, many local respondents were also unsure about the absolute growth in the number of snow leopards and leopards, but they were very sure about the increase in numbers of other wild animals. They mentioned that anyone re-visiting the KCA after 2001 could easily observe many birds, barking deer and blue sheep, which were not common in the mid 1990s. Furthermore, the respondents from Taplejung bazaar and the participants in stakeholder consultations also reported increased wildlife numbers, and highlighted crop and livestock depredation as the main current and future challenge for wildlife conservation.

Table 7.1: Summary of Main Evidence and Reasons Given for Increased Wildlife Populations and Improved Forest Conditions

Evidence	Reason(s)
Wildlife • Increase in crop (substantial) and livestock depredation by wildlife from 2002 onwards • Increase in frequency of sightings of endangered wild animals such as musk deer, Himalayan black bear and red panda • 2 adult snow leopards with 3 cubs were sighted in October 2003 after decades of no sightings • Increased sightings of bigger herds of blue sheep, barking deer and tahr • Blue sheep competing with livestock for grazing • Increase in sightings of larger birds like blood pheasants, Himalayan monals & kalij pheasants: and cereal crops raided by many species of birds • Wild animals behaving more like domestic animals nowadays • Wild pigs first sighted in 2002, now reported raiding crops all over KCA • Domestic goat and pig depredation by leopards, first reported in 2003 from Lelep	**Wildlife** • Regular wildlife monitoring by KCAP and KCA institutions • Local people are involved directly in wildlife monitoring • The hunting of deer, tahr and blue sheep was stopped from 1998 • Decline in Himalayan black bear and musk deer poaching • Presence of KCAP threatening legal action against the poachers • Increased conservation awareness and growing positive attitude of local people towards the project • The re-demarcation of KCA boundaries and Conservation Area Regulations 2000 recreated local ownership • The Maoists confiscated all the guns in villages, and they have not been seen engaging in poaching so far • Decline in trapping and positioning (stopped) of snow leopards and other carnivores • Mothers' Groups taking strong actions against poachers and conservation rule violators • Perceived threat of the KCA becoming a national park with the army enforcing the rules, if people fail to support the project • Expectation of wildlife-based or eco-tourism development
Forest • Increase in wild animals • Many previously barren lands are now covered with planted and naturally regenerated trees • Public land, previously farmed under shifting cultivation, is being slowly taken over by natural regeneration • Less distance and time required to collect grass and fuelwood • A lot of privately cultivated land inside forests is turning into grassland	**Forest** • Restrictions placed by CAUCs on fuelwood and timber collection • People voluntarily controlling forest fires, collecting less fuelwood and harvesting grass and fuelwood from designated areas • Regeneration through better management and plantations • Timber trade with Tibet from Gola area stopped • Large fuelwood and timber demands met from cardamom shade trees • Slash-and-burn agricultural practices stopped on government land and decreased on privately own land • Decreased pressure on forests due to alternative energy activities such as back-boilers, improved cooking stoves and kerosene depots

Source: own research data

For the local interviewees, the main indicators of wildlife growth were substantially increased crop losses from wild animals, frequent sightings of all known wildlife species and changes in wildlife behaviour, i.e., that wild animals behave more tamed, particularly, barking deer, monkeys, blue sheep and many species of birds. There is also evidence of increasing livestock depredation by snow leopards; goat and domestic pig depredation by the common leopard; blue sheep competing with livestock for grazing space; and the emergence and spread of wild pigs (Table 7.1). The local respondents compared these changes with the wildlife status in the mid 1990s.

> *"Like our forefathers, we have also lived with wild animals and will continue to co- exist. The only problem is that we are losing too much crops to wildlife lately. Therefore, the KCAP, the Council and the government should do something about the increasing wild animals to reduce our losses. Unfortunately, we don't get tourist like the ACA to develop wildlife tourism."* Mr B. Limbu, Tapethok

Increases in wildlife were attributed to conservation awareness, the positive attitude of local people towards the project and effective wildlife monitoring. In the opinion of interviewees, an enhanced community capacity to regulate the use of forest products and participate in anti-poaching operations also contributed to the reduction of musk deer and Himalayan black bear poaching, as well as the positioning of snow leopards and other carnivores (Chapter 5.1.3 and Table 7.1). Moreover, many local respondents reported that re-demarcation of the KCA boundaries and endorsement of the Conservation Area Regulations 2000 contributed to the re-creation of local ownership over natural resources and provided the structures required for the community-based management of the area. There was also a growing expectation of eco-tourism development and a perceived fear that the KCA would invest in strong conservation measures, instead of community development activities, if the local people failed to deliver conservation results.

> *"The increase in wildlife is not only due to conservation awareness and the Maoists seizing all our guns, because many wild animals such as bear and deer can easily be killed by trapping. The presence of the KCAP has also frightened the local people. We believe that the project will put us in jail if we kill wild animals."*
> Mr L. J. Limbu and Mr L. Limbu, Tapethok

In general, the insurgency seems to have had a surprisingly mainly positive impact on conservation. Many local respondents believe that the insurgency has contributed to wildlife conservation. The main reasons given by them were three fold. The first reason was that almost all of the local guns were confiscated by the Maoists and also controlled by the state security forces. The second reason was that people avoided entering the forests for fear of the Maoist presence and possible aerial action by the security forces. Hence, the likelihood of wildlife killing and habitat destruction was perceived to be greatly reduced, directly contributing to conservation. The third contributing factor was that the Maoist rebels were not reportedly engaging in wildlife hunting or poaching. A local Maoist commander stated, "Our bullets are to fight with the Royal Army not for wildlife hunting".

He also suggested that the KCAP must register with them, pay 10% of the total project budget as 'revolutionary tax' to their 'new regime' and should provide them a wildlife monitoring budget for more effective protection. However, few local interviewees assumed that the Maoist might poach musk deer and Himalayan black bear for economic reasons and other animals for food.

The local population assessed the increasing wildlife mostly as a threat to their livelihood, even though project staff, experts and a few local respondents viewed this as a conservation success. Although respondents from Buddhist communities claimed to follow the path of non-violence—including refraining from killing living beings and thereby contributing to conservation—the trapping of snow leopards, blue sheep and musk deer by them reportedly continued. Furthermore, the intention to hunt wildlife in the absence of the project staff was evident, particularly among Tapethok respondents who had been subsistence hunters in the past. Meanwhile, a strong desire to protect wildlife for eco-tourism development and to support the KCAP for continued development benefits was clearly evident among the majority of locals.

> *"Despite the KCAP's conservation efforts, lots of musk deer are still killed by outsiders in collaboration with the local herders. Therefore, the project should work closely with the local herders."*
> Ms L Sherpa, Yamphudin

Almost everyone interviewed related nature conservation with the protection of wildlife and the controlled use of forest resources. Most of the interviewees reported a considerable decline in poaching of endangered floral and faunal species since the establishment of the KCAP. However, they believe that poaching would increase in the absence of project staff and regular monitoring. Many respondents mentioned that poaching has not been strictly controlled by the KCAP due to the extreme security situation, as well as to facilitate community-based conservation approaches and enable local people to adapt to the new conservation policies and rules.

An overwhelming majority of local respondents stated that the sustainable conservation of many endangered floral and faunal species and crop and livestock raiding wildlife—so-called 'pest animals' (Chapter 5.1.3 and Table 5.2)—remains uncertain without continued external support. Almost all of the local respondents suggested that either people should be compensated for their crop and livestock losses or should be allowed to kill crop-raiding animals. Nevertheless, most of the interviewees expressed confidence in people protecting wildlife, provided a sustainable income mechanism is established for the KCA-MC to compensate crop and livestock losses and conduct regular wildlife monitoring. Many of the respondents reported the retaliatory killing of leopards, and the involvement of business people from outside the area (e.g., Tibet, Taplejung and Kathmandu) in the poaching of musk deer for musk and Himalayan black bear for gall bladders as the biggest wildlife conservation challenges, requiring long-term financial, technical and legal support from the project or the government for effective control.

Forest: Over 83% of the local respondents reported a slight growth in forest cover area; whereas the remaining 17% believe the forest condition to be unchanged since the inception of the KCAP. The indicators of improvement were naturally regenerated and planted trees covering previously barren land and farmed public land which was earlier under shifting cultivation. Most local interviewees related forest improvement to increased wildlife numbers. They believe that fallow lands serve as grasslands and are a suitable habitat for wild animals.

> *"I think our forest condition is slowly improving, at least it is not degrading. We control slash-and-burn farming, collect less and only dried fuelwood and rich households who need more fuelwood collect from their cardamom farms."* Mrs R. Rai, Lelep

> *"Forest cover has increased because we collect only dry fuelwood from designated areas, as per the rules of our committee, unlike earlier when we used to cut many green trees ... nowadays we can collect grass and fuelwood from forests near our village."* Ms S. Rai, Lelep and Mr N. Sherpa, Lelep

The other reasons given for improved forest condition are related to the application of restrictions on fuelwood and timber collection by the KCAP and the KCA institutions; voluntary control of forest fires by the local people; harvesting of grass and fuelwood from designated areas; and halting the timber trade with Tibet. Meeting large fuelwood and timber demands from cardamom shedding trees; stopping slash-and-burn farming in public forests and decreasing this practice on private land; and the introduction of alternative energy resources by the project were also perceived to be contributing factors (Table 7.1). Many respondents mentioned that the Conservation Area Regulations 2000 and the draft KCA Regulations 2005 have contributed to resolving misunderstandings associated with the future management of the area. However, the fear that—in the absence of the KCAP—the KCA will become a national park with the army enforcing the rules was still prevalent. This fear was most common among the general public rather than the executive members of the KCA institutions.

> *"Our totally barren hills are now covered with planted trees and trees are also growing naturally. We hope to meet our future timber and fuelwood demands from this forest patch."* Ms P. Sherpa, Lelep

Unlike wildlife conservation, most of the interviewees considered the improving forest conditions as a positive trend. Nevertheless, interviewees from higher altitude belts strongly raised concerns against the control of MAP collection and the stopping of the timber trade with Tibet. Like many others, one of the respondents from Gola mentioned, "KCAP does not allow local people to collect timber, fuelwood and medicinal plants". They saw very little rationale behind the strict protection of MAPs as these species have been harvested for decades and their present protection has benefited mainly Tibetans, who illegally collect MAPs. As a result of restrictions on the harvesting of MAPs by locals, Tibetans are able to collect MAPs more easily and higher quantities. The respondents from Gola and Yangma also reported their inability to take any action against Tibetan poachers due to strong traditional trade links and personal relationships with them. Many of them suggested that the KCAP

should conduct regular anti-poaching operations and discuss the matter with the concerned TAR authorities. The unanimous position of local interviewees on forest conservation was that too many restrictions were placed by the KCAP on the use of forest resources without sufficiently addressing their alternative energy requirements and livelihood needs.

> *"I think conservation is good because it is for us. The KCAP is not going to take away our wildlife and forest with them. These resources have for centuries been with our fore fathers and now with us, and will later be with our children."* Mr R. B. Rai, Tapethok

> *"Poor people who make a living from the timber trade and medicinal plants are suffering the most from the conservation restrictions imposed by the KCAP."* Mr N. C. Sherpa, Gola

The respondents recognised the importance of alternative energy activities to maximise conservation impacts and improve the living conditions of the local people. They mentioned that the installation of improved cooking stoves with back-boilers (a water pipe is connected to the stove which heats water in a separate tank while cooking), solar sets and the establishment of two community-based kerosene depots have directly or indirectly contributed to the reduction of pressure on forest resources and have increased community participation in plantations and forest management. These activities have also simultaneously raised local expectations of the expansion of existing activities and the initiation of micro-hydro schemes.

7.1.2 Community Development and Livelihood Improvement

Over 75% of respondents reported that their living conditions have improved because of project interventions. Most of them referred to livelihood improvements in relation to community infrastructure development activities such as the repair and installation of trails, bridges, piped water supply, schools, toilets, a girls' hostel, a childcare centre, campsites and monasteries. The remaining 25% either reported no tangible improvement, or even that the conservation costs exceeded project benefits. "The project's development goal is just propaganda because our bridge has still not been repaired," reported Mr L. Limbu. However, most of the respondents mentioned benefiting from project interventions, one way or another, and expected more development in the near future. "Many poor people from Tapethok received solar lighting sets from the KCAP but I did not get one, even though I am also poor. I am waiting for my turn," said Mr L. Limbu. Interviewees who claimed to be very poor reported that they benefited directly from wage labour and portering opportunities.

> *"In term of percentages, I think the KCAP has brought 90% benefits and 10% problems for the people. The main problems are related to crop and livestock depredation and restrictions on slash-and-burn farming."* Mr B. Limbu, Tapethok

> *"The KCAP has given birth to so many problems. Our barley, wheat, potato and other crops are now eaten by wild animals. The project has to solve this problem before it leaves."* Ms P. Sherpa, Lelep

Many local interviewees suggested that the KCAP largely benefited able individuals (e.g., created jobs), active communities (e.g., Ghunsa) and larger settlements along the trekking routes (e.g., by building infrastructures), rather than the most disadvantaged inhabitants from isolated settlements. Likewise, several interviewees indicated that project interventions hardly benefited the individuals and households who were most affected by crop damage caused by wildlife. In fact, crop losses were reported/found to be more often inflicted on poor farmers whose farms are mostly either on the edge of fields or inside forests and, therefore, susceptible to wildlife raids. A few local teachers also complained that the high salary of project staff has contributed to inflation. One of the school teachers pointed out that chickens cost double the price and they need to pay for rooms previously provided free of cost by individual households. The interviewees who participated in the porters' training complained that the KCAP had not established a porters association to safeguard their livelihoods from outside porters and had not created alternative livelihood options for them.

> *"We are poor porters because our agriculture production is not even enough to survive for six months. We benefit from transporting project goods, but not much."* Mr M. M. Limbu and Mr L. Limbu, Tapethok

> *"The major and en-route tourist villages are currently benefiting the most from the KCAP. It should benefit every individual and settlement equally."* Ms P. Sherpa, Lelep

The implementation of integrated conservation and development project activities, in the most remote parts of Taplejung district, in one the most challenging political environments, was highly acknowledged by the locals and district level stakeholders alike. Over 85% of respondents expressed appreciation for the KCAP. They suggested that the project should continue its efforts at least for another five to seven years to bring about tangible development changes in the area. The remaining 15% of interviewees, mostly from Gola, did not care whether the project continued or not, but preferred to work with the KCAP rather than the DNPWC authorities alone. Everyone interviewed, including stakeholder participants, expected infrastructure and economic development-oriented activities and solutions to crop and livestock depredation from the KCAP.

> *"Most of the local people know about the KCAP because the poorest girls are getting scholarships, the poorest families are getting solar lighting and many people grow vegetables with project seeds."*
> Ms S. Limbu, Tapethok

All of the interviewees appreciated the savings and credit endowment fund, which is managed by the Mothers' Groups (MGs), for providing loans at low interest rates to (poor) female members and their families to undertake income generating activities and for offering scholarships to 32 of the poorest girls from the area (Chapter 6.2.4). Likewise, the contribution of MGs to community development activities such as the improvement of trails, village sanitation, cultural sites and conservation activities (e.g., nurseries, plantations and forest management) were highly recognised by almost everyone interviewed.

"The Mothers' Group fund is helping us to meet our immediate family needs and buy food before the harvest ... the fund also provides us with an opportunity to improve our income and educate poor girls."
Ms G. Gurung and Ms R. Rai, Yamphudin

An overwhelming majority of respondents reported that the MGs loans and subsequent income generation activities contributed to improving the socio-economic conditions of many poor individuals and households. "The project has contributed to reducing poverty, particularly in Tapethok and among poor women and their families, through savings and credit loans, unlike the Agricultural Bank and Small Farmers Loan Schemes, which ruined the livelihoods of many poor farmers due to high interest rates, complicated banking procedures and the requirement of collateral," said Mr Dawa Sherpa Chairperson, KCA Management Council. One of the local teachers also mentioned that, "The Mothers' Group scheme is a very innovative idea which is killing two birds with one bullet by helping poor girls to get an education and women members to make income simultaneously". Most of the interviewees indicated an increase in local income and a decrease in food deficit due to local employment, income generating opportunities and the introduction of vegetable production by the KCAP.

"The KCAP is doing very good development work. We eat lots of vegetables and also sell to tourists. I grew a 25 kg cabbage last year."
Ms P. Sherpa, Lelep

The growing influence of women in household and community affairs was seen as the impact of economic, education and capacity building inputs of the project. The ex-chairperson of the Lelep VDC and recipient of the 2001 Abraham Conservation Award, Mr Gyazula Bhutia, and other group discussion members stated that, "We have to listen to the Mothers' Groups because they have the money and skills, and they are a very organised group". Ms Jenita Gurung (ex-senior programme officer, who visited the KCA in 2004 after leaving WWF-NP) and Locher (2006) also shared similar views.

The level of benefit is clearly evident when the interest rates and the requirements of village money lenders are compared with Mothers' Groups loans (Chapter 6.2.4 and Table 7.2).

Table 7.2: Comparative Loan Requirements for People from Tapethok VDC

Villager Money-Lenders	Mothers' Groups
• Interest rate is NRs.5 per month per NRs.100 borrowed, which means 60% per year • One bottle of local alcohol (raksi) • A plate of meat, mostly pork or chicken • 1 to 2 days volunteer work; and most work for lower wages than the normal rate to pay back the interest and the principal • Deposit of jewellery or other valuables	• Must be a member of a MG and request a loan; the MG members collectively fix interest rates, mostly below 15% per year • Every woman is eligible for membership, regardless of their social and marital status • Loans are available from NRs.500 upwards; the upper ceiling is normally NRs.3, 000 per member • No collateral is required; only social pressure is applied to ensure loan is paid back

Source: own research data

Despite the benefits, some respondents reported that they were unable to access loans from MGs because of various constraints related to membership, fund management rules and their capacity to pay back the loan, which is reflected in the following two statements.

> *"All ordinary people like the KCAP, but some rich people complain behind closed doors because they are not benefiting directly. For example, we poor Limbus don't take loans from rich Sherpas at high interest rates anymore because of access to cheap interest rate loans from the MGs. Many poor women and their families are making a decent income from piggery, goat keeping and other businesses. But I have no wife so I don't get a loan. It would be nice if the project establishes Father's Groups to benefit poor single men like me."*
> Mr N. B. Limbu, Tapethok

> *"Our Mothers' Group recently denied loans to a few very poor members due to the risk of losing money. Two members who had used their loans to buy food are unable to pay the money back. It is difficult to decide who should get a loan as most of the members are poor and need loans, but the scholarships are given to the poorest girls."*
> Ms L. Sherpa, Yamphudin

There is a threat to the sustainability of the Mothers' Groups' savings and credit schemes, as the Maoist rebels ask for donation money. So far, the MGs have been able to persuade the rebels to leave their funds intact, but uncertainty lingers. Many respondents, including the KCAP staff, believe that the Maoists would not take the money as the schemes largely benefit poor women and their families and the poorest girls, and the Maoist also need local support. Most of the respondents mentioned that the Maoist would dismantle the scheme as a last option if the local people continued to resist the formation of Maoist grass-roots institutions, which has proven a real challenge for the Maoists owing to the KCAP's popularity and institutional setup.

> *"Most MG members fear that the Maoist will seize our money. But some of us believe that they will not force us to hand over our hard earned fund because they also need our support. If their threat becomes more real, we will divide the money among ourselves equally before it is taken away, and might restart again when the situation improves."* Ms P. P. Sherpa, Lelep

Maoist pressure was reported the highest in Yamphudin and the lowest in Ghunsa and Gola. The general perception of the local interviewees was that the members of the Yamphudin MG who did not pay back loans, collaborated with the Maoists. Meanwhile, the (two) Gola Mothers' Groups have already divided the fund equally among their members, and meet every six months to calculate interest and keep records. However, the management practice of the Gola MGs was more to do with the past experience of government funds being misused by local leaders, rather than the Maoist threat, as per one of the executive MG members.

Most of the interviewees reported a significant improvement in women's literacy and overall education system. Like many others, Ms P. Sherpa said, "Non-formal education classes enabled many women to read and write, as well as to keep Mothers' Group's financial records and meeting minutes". She also admitted that the learning process had been a heavy burden on herself and many of her fiends due to time constraints and family commitments. Many respondents mentioned that scholarships for poor boys are needed just as much as for poor girls. In six years, only two cases were reported where girls' scholarships were awarded to poor girls, but not the poorest, due to a dispute between the school teachers and the MGs regarding selection. Here, the teachers wanted to select the poorest girls but the MGs awarded the scholarship to the girls with the best academic performance.

> *"Earlier as a student, and now as a member of the Mothers' Group, I appreciate the project helping many people. With girls' scholarships, the girls' hostel and other support to our schools, more students are passing their School Leaving Certificate (SLC) exams. Last year 37 out of 50 students passed their SLC."* Ms D. P. Sherpa, Lelep

> *"I want a scholarship for my children, but I am happy that the MG scholarship is given to the poorest girl in our village. I think we also need scholarships for poor boys."* Mr W. Sherpa, Lelep

Many respondents believe that the provision of scholarships to girls (and a few boys for a lower amount), and the fact that the project works closely with schools through eco-clubs and other school support programmes, has boosted the attendance and performance of school teachers. It was also reported that Mothers' Groups from Ghunsa and Gola took firm action by locking their schools to protest against poor attendance and teaching, ultimately making the teachers seek their pardon and promise not to repeat such mistakes. Many interviewees reported these incidences as an indication of a growing local capacity to face government authorities and outsiders.

Almost everyone reported a physical improvement in health and sanitation conditions. Self-regulated regular village clean-ups, the growing use of improved toilets, enhanced village drainage systems and increased awareness of personal hygiene were given as examples. Earlier, "getting close to the village was indicated by the smell of human waste, which is not the case anymore," said Mr K. Rai. The district-based journalists, during group discussions, also highlighted sanitation interventions as one of the most successful activities of the KCAP.

> *"Every KCA village is very clean. Many people think they should not use non- biodegradable products like bottles and plastics to conserve the environment."* Ms C. P. Lama, Gola

A growing cooperation between the KCAP and livestock owners was observed with the establishment of the community-managed livestock insurance scheme to compensate for livestock losses to snow leopards. The involvement of the local men in anti-poaching and wildlife monitoring activities also generated local income. Meanwhile, many respondents

believe that such activities should be increased to benefit more people, instead of just a handful of people who have already been involved (Chapter 6.2.3).

Over 80% of respondents reported that the KCAP interventions not only improved their livelihoods but also contributed to nature conservation. According to them, the local people accepted conservation restrictions because of the development benefits and conservation awareness brought about by the project.

> *"Because the project is helping us to improve our lives, we also help them in conservation."* Ms C. P. Gurung, Yamphudin

> *"Sustainable conservation is possible only with community participation. Our participation depends on whether the project contributes to improve our livelihoods or not."* Mr B. Limbu, Tapethok

The main reason given for the effective implementation of project interventions was the serious efforts of the project staff to address the various community infrastructure and livelihood needs of the local inhabitants through community participation. An overwhelming majority of respondents considered planning project activities with local women, men and children at settlement and school levels and implementing them directly through their respective User Groups, as the best project management mechanism.

Table 7.3: Summary of Evidence and Reasons Given for Livelihood Improvements

Evidence	Reason(s)
• Access to the KCA was enhanced by the maintenance and installation of trails and bridges • Health and sanitation conditions improved (with piped water supply, awareness of health issues, health camps, and toilet and drainage installations) • Income of many households increased due to project employment and income generating activities with MG loans • Long-term access to education ensured for 32 of the poorest girls, and improved general education due to school support • Women literacy rate increased by almost 35% through literacy classes • School sanitation improved by the installation of sanitary toilets (in all schools) • Food deficit of many households decreased with the introduction of hybrid vegetables and wage earning from portering and construction • Solar lighting and improved cooking stoves and back-boilers accessed for the first time by over 500 households	• Direct implementation of gender sensitive and needs based development activities through user groups • Project staff staying within the area since project inception and working directly with the local people • Recruitment and training of local people by the project • Implementation of various trainings, study tours and interactions • Making community participation a precondition for the initiation of development activities • Contribution of time, effort, materials and cash by the community for project activities • Reaching of benefits to the poorest individuals and households in every settlement • Creation of various income generating opportunities • Efforts to maintain transparency • Respect by staff for local values, cultures, traditions and institutions • Building of good relationships with local people • Partnerships with other development organisations to improve infrastructures • Adoption of a flexible implementation approach

Source: own research data

Most of the interviewees pointed out that the fact that project staff mostly stayed inside the KCA, made household visits, conducted village level interactions and addressed the most urgent community development needs helped to build the needed trust between project staff and the local people, particularly in the initial phase. Thus, many locals did not appreciate the project staff being stationed in Taplejung bazaar since 2002. The view of one of the respondents from Tapethok was that project staff should not be paid if they stay in Taplejung bazaar. According to many interviewees, most of the government and donor projects had failed in the past because senior staff stayed in the district capital and projects did not employ local people. One of the local journalists and an interviewee from Yangma mentioned that the visits of government officials to Yangma, even after the establishment of democracy in 1990, could be counted on the finger tips, unlike the KCAP staff who make regular visits.

> *"Other projects don't come back once the work is completed but the KCAP people keep on coming back and give us suggestions regularly."* Mr D. Sherpa, Lelep

> *"Employing local people and working directly with user groups have made the KCAP successful."* Ms S. Rai, Lelep

When compared, most of the respondents perceived that conservation achievements were much higher than community development achievements. However, almost all interviewees believe their livelihoods would have been improved to a greater extent if there had been political stability. Many locals believe that changes to the livelihoods of local people cannot be solely attributed to project interventions, but to several external factors such as tourism trends; the market price for cardamom, chiraito and livestock; and, most importantly, the insurgency. One of the poorest women from Tapethok received three months tailoring training in Taplejung bazaar under the KCAP's income generation programme and was making a good living from tailoring in her village, before she was brutally abused and her sewing machine broken beyond repair by the Royal Nepalese Army patrolling team, who accused her of sewing Maoist uniforms. Likewise, many interviewees from the lower KCA belts reported that the recent decline in cardamom and chiraito prices has affected their livelihoods to a great extent.

The impact of the chiraito price on subsistence livelihoods was reported to be much higher when compared to cardamom, as many poor farmers collected chiraito from government forests; whereas cardamom was grown on privately owned land. Most of the respondents believe tourism could make the biggest difference to future conservation and development, followed by the utilisation of non-timber forest products (NTFPs) and medicinal and aromatic plants (MAPs) and livestock development. Comparisons were made with tourism development in the Annapurna Conservation Area and Sagarmatha National Park. However, some respondents acknowledged the limitations of tourism growth due to political instability. KCAP's development-oriented activities have created tremendous expectations among the people, which is a formidable future challenge for the project staff and the KCA Management Council members.

The main expectations of the project for livelihood improvement are as follows:

- Installation of micro-hydro schemes in Lungthung, Ghunsa, Tapethok and Yamphudin
- Compensation for crop and livestock losses
- Community-based livestock insurance scheme for Yangma and Gola
- Additional solar sets and alternative roofing materials
- More trail improvement and installation of remaining suspension bridges
- Establishment of Fathers' Group funds, similar to the Mothers' Groups micro-credit funds
- Policy reform for the sustainable harvesting of NTFPs/MAPs and wildlife.
- More focused investment in livestock, cardamom, chiraito and tourism development
- The sourcing of reliable and profitable markets for local products such as carpets, cardamom and chiraito

7.1.3 Local Capacity Building

The capacity of local women, men and children in terms of understanding and managing the KCAP interventions has increased. Almost 80% of the respondents reported considerable improvement in the general awareness of local people (Table 7.4) and their overall capacity to manage project activities (Table 7.5). The remaining 20% suggested that there has been no improvement in the capacity of the local people, but most indicated an increase in conservation awareness. Despite the perceived local capacity growth, about 70% of interviewees believe that project interventions might not sustain in the absence of the KCAP, or without considerably improving the capacity of the KCA institutions.

> *"Whoever comes into power, including the Maoists, conservation and development is our need. With support from the KCAP, we are ready to face the challenges ahead in realising community-based management of the KCA."* Mr M. D. Limbu, Council Member

> "The KCAP's community-based development approach has created a new culture. Many people feel the project has opened our eyes." Ms K. T. Subba, Tapethok

Commonly used terminology in conservation, such as 'conservation for future generations', 'non- biodegradable', 'pollution' and 'sustainable development', were frequently uttered by many respondents during the interviews and the group discussions. To some extent, these words were translated into actions as most of the interviewees mentioned their direct involvement in garbage and forest management, toilet installation and drainage improvements. "People who had lots of rubbish in and around their own houses a few years back are now even beginning to collect from in and around the village," reported Mr G. Sherpa. Many locals also mentioned that the project has taught them that benefits comes with costs, for example, "the KCAP enforces community participation by not initiating anything if people don't contribute their share," said Ms K. Sherpa. The understanding of the KCAP by the local inhabitants over time (Table 7.4) clearly demonstrates a considerable increase in awareness about the project, as well as of wider conservation and development issues.

Table 7.4: Comparative Perceptions of KCAP by Local Inhabitants in 1998 and 2005

Topic	Inception Phase of 1998	End of 2005
Project acceptance	Should be driven out	Should stay at least 5-7 years
Project type	Development project	Conservation project with development
KCA infrastructure	Project should buy land	Individuals and community provided land
KCA ownership	State or government	Local community and government
Protected area type	National park	Community-managed conservation area
Management authority	Park authority with Army	Local Council with park authority
Enforcement of rules Participation benefits	Armed forces & legal action Project	Community pressure and legal action Local community and project mutually
Activity costs	Project should cover 100%	Community should contribute a share
Activity implementation	Project and local leaders	User Groups/Council with project support

Source: own research data

A significant result is the change in attitude towards the KCAP, which was suspicious and sceptical in the beginning. "My attitude and perspective towards KCAP has changed. I was negative and sceptical when it started but now I am a strong supporter. I tell people that this is the best project," stated Mr D. B. Rai, ex-DDC member, Taplejung. The interviewees who expressed a strong negative attitude said that they would support the project if an alternative to natural resource dependent livelihood opportunities were created for them and/ or some of the conservation restrictions were relaxed. They also mentioned that it is their compulsion to harvest forest resources and prevent crop and livestock losses to sustain their livelihoods.

> *"I am a strong believer that conservation is not possible in poor countries without addressing peoples' livelihoods needs—guns alone cannot protect nature when people are simply poor."*
> -Dr Chandra P. Gurung, Country Representative, WWF-NP

Even though most of the respondents acknowledged the importance of direct community contribution to project activities, the general stance among many interviewees was that the project should cover 100% of the activity costs. The main reason given for people's inability to match the prescribed community contribution (at least 10% of total estimated costs) was poverty, although a few respondents mentioned that recognition is an important factor. According to Mr W. Sherpa, "We do the work but the project gets the credit".

Most of the respondents used staff names (e.g., Angphuri Sherpa and Ugal Kisor Thakur) as a synonym for the KCAP, and acknowledged the contribution of individual staff in bringing positive changes to the area. They believe that the project staff working closely with the locals helped to generate conservation awareness and improve the local capacity to manage various conservation and development activities. Many interviewees also mentioned the negative impact of a few project staff (mainly outsiders).

"If you ask people 'what is KCAP?' people might answer that it is doing lots development work or refer to project staff. When you ask people what does KCAP want to do? They will straight tell you it is for conservation." -Mr R. B. Lamjel, Headmaster, Lelep School

In general, the respondents from Yamphudin, Ghunsa, Yangma and Tapethok area demonstrated a more positive attitude towards the KCAP and were optimistic about the future of conservation and development initiatives, as compared to interviewees from Gola and some of the lower belt villages in Lelep VDC. The pessimism and negative attitude of many respondents towards the KCAP was found to be primarily related to conservation measures undermining the utilisation of MAPs and other forest resources for subsistence livelihoods and the livelihood threat posed by the growing numbers of wildlife.

Table 7.5: Summary of Increasing Local Capacity at the Individual and Institutional Level

Individual	Institutional
• More women confidently face authorities, outsiders and strangers • Many individuals run income generating activities, i.e., shops, piggery, goat keeping, poultry, carpet production, etc. • Three individuals received Abraham Conservation Awards in 1999, 2000, 2001 • Local project staff carry out wildlife monitoring and anti poaching operations • Local men together with project staff monitor wildlife • The majority of Mothers' Group members can read and write • Most local people confidently handle government authorities	• KCA institutions established by the project implement project activities • KCA-MC is ready to take over the KCA management responsibility • The majority of Mothers' Groups and many User Committees enforce conservation rules • One Mothers' Group received the Abraham Conservation Award in 2003 • 32 Mothers' Groups independently manage their savings and credit funds and 32 girls' scholarships • The Ghunsa Snow Leopard Conservation Committee manages the livestock insurance scheme • 16 User Groups manage community forests • NGOs are established by ex-local KCAP staff and implement project activities

Source: own research data

The establishment of local institutions and diverse capacity building activities such as training, study tours, interactions and staff exchanges with the Annapurna Conservation Area have contributed to the capacity building of locals. "Various trainings provided by the project have given us a sense of hope and direction to improve our lives," said Ms P. Sherpa. However, some respondents believe that many training programmes were conducted on a trial and error basis, and people participated because of financial and other incentives (e.g., the daily allowance and to see new places), rather than to learn new ideas and skills required for conservation and community development. Meanwhile, some of the interviewees stated that their initial perception of the study tours as a waste of resources was proved wrong. According to them, the establishment of the Hellok Child Care Centre, regular village clean-ups, trail repair, drainage improvement and strong community support for the project are the direct impact of study tours.

> *"I learned a lot from the study tour. I saw a clear difference between the Annapurna Conservation Area and Chitwan National Park management regimes, which convinced me to support the KCAP strongly."* Mr B. Limbu, ex-VDC chairperson, Tapethok

Many respondents reported that the project has contributed to raising gender awareness and to improving the social status of women. It was also reported that most of the gender-focused project interventions helped to increase the individual and institutional capacity of women (Chapter 6.2.4). One of the local political leaders said, "the Mothers' Group programme has actually achieved what all the western and educated women in Nepal talk about, that is, gender awareness, equality or equity". Furthermore, two recipients of the girls' scholarship, Ms Kamala Tammadin Subba and Ms Susma Rai reported that their parents encouraged them to continue with their studies instead of getting married because of the project's gender awareness activities and support for education.

> *"Because of increased awareness, people know more about conservation and the importance of working in groups like the Mothers' Groups for community benefit."* Ms S. Rai, Yamphudin

The participation of women in decision-making was found to be very effective at the Mothers' Group (MG) level, but relatively ineffective at the Council level. The way the different MGs function was noted by the interviewees, such as the way the Hellok MG has managed the Child Care Centre since 2000; the Yangma MG, which courageously chased away Tibetan poachers in 2003 by pretending to be police women; and the Gola and Ghunsa MGs who took strict actions against inefficient teachers as a testimony to their capacity enhancement. Many respondents also reported similar examples, such as forest fire control, nursery management, plantations and taking action against poachers. While most of the male respondents appreciated the growing influence of MGs in community affairs, a few expressed dissatisfaction and considered the project's gender sensitive development approach as biased towards women. Nevertheless, the dissatisfaction was not reported to be causing any problems for MG members. Many of the male and female respondents reported that lots of men supported the MGs to maintain their meeting and financial records in the initial phases, and have continued to partner them in development activities.

> *"Mothers' Groups are more powerful and capable in implementing project activities than other mixed or men groups. People listen to them because they provide loans and work in groups."* Mr D. Sherpa, Lelep

> *"Mothers' Groups are working effectively, but the Council is inactive and not transparent. The Council members need lots of support and training from the project."* Mr G. B. Limbu

The majority of respondents raised the issue of transparency in project management. Over 85% of local interviewees reported that project implementation was more transparent, and thus more effective, when the KCAP implemented activities directly through User Groups,

compared to implementation by the KCA-MC through User Committees since 2004. However, many interviewees raised questions about transparency at the central level office in Kathmandu, expressing their concerns about whether the funds raised were actually invested in the area. Some interviewees also believe that the KCAP staff are highly paid, as their salaries are never disclosed in public, unlike the project activity budgets.

> *"Committee and Council members are not working transparently. Only they know what is going on with the KCAP or how much budget we get, but not people like us. The KCAP staff used to discuss project activities with everyone in village meetings, but the Council members are not consulting us, which is not a good sign."* Ms P. Sherpa, Lelep

An overwhelming majority of the interviewees strongly related the effectiveness of the KCAP to participatory and transparent decision-making processes. "Project activities are discussed in village meetings, but whether we get them or not depends on the project," said Ms P. Sherpa. There is a strong perception among the locals that the KCAP authorities make decisions in consultation with local communities and other stakeholders. Most of the respondents stated that they would consider the project management transparent, if the project activities were discussed intensively in village meetings and decisions were taken in groups or collectively. For them, transparent project management also meant informing every woman and man in the village about the cost of each activity (e.g., project and community contributions), the activity site, the timeframe and the individuals involved directly in the implementation, as well as conducting a public audit after the completion of each development activity.

> *"I think committee chairpersons or the Council people are making the main decisions for our development."* Mr R. B. Limbu

> *"We only make the village clean-up and trail improvement decisions by discussing among ourselves."* Ms P. Subba, Lelep

The Mothers' Groups were reported to be much more effective in making settlement level decisions and executing development activities compared to UGs, UCs and the Council. "We make all our decisions related to Mothers' Group affairs by ourselves," said Ms G. Gurung. At the institutional level, poor cooperation between the MGs and the UCs/Council was reported. This poor cooperation was reported to be a result of competition between the two institutions to claim supremacy in grass-roots level development efforts.

Several interviewees believe that mistakes were made while forming the UGs and the Council. According to them many individuals stood for membership hoping to either get paid (e.g., a salary) by the project or to be able to manipulate the project funds (e.g., like government projects), and got elected, but became inactive when their expectations were not met. They also reported that the vested interests of a few senior project staff contributed to the selection of uncommitted and incapable members in the UCs, which has subsequently affected the Council's performance. Nevertheless, everyone stressed the need to support these local institutions at least for five to seven years to realise the community-based management of the KCA.

"Local people should be given full responsibility with authority to manage the area, and the project should build the local capacity at least for the next 5-10 years to facilitate the process."
Mr Mingma N. Sherpa, Conservation Programme Director, Asia Pacific, WWF-US

"If the money spent on government staff and Army for park management is given to the local community I am definitely sure people will mange much better than the government authorities because the resources belong to them and they need to conserve them for future use." Mr R. Subedi, local teacher

Regardless of the fact that the majority of local respondents reported being uninformed about the Council including their members, activities, roles and responsibilities, and that some pointed out weaknesses or expressed dissatisfaction with the work performance of the User Committees and the Council members, most respondents (including the experts) unanimously endorsed the community-based KCA management. "Conservation by the locals is the best option because we can talk, discuss and settle important cases like poaching, which is not possible with government management," said Mr G. B. Limbu. The Council Chairperson was confident that, with support from the WWF-NP for five to seven years and the government handover, the KCA could be an outstanding example of a successful community managed conservation area. Most of the interviewees reported that the sustained community support for the KCAP and the work performance of the Mothers' Groups, the Council Chairperson and the project staff have saved the project infrastructures from destruction by the Maoists.

In general, interviewees were sceptical about the continuity of project interventions with the same vigour without the KCAP, or without significantly enhancing the capacity of Council members and establishing sustainable financing mechanisms. The proposed training needs were on project planning, monitoring and evaluation, social mobilisation, conservation awareness, natural resource management, financial management and accounting, good governance and coordination and networking. The Council Chairperson, Mr Dawa Sherpa, a highly recognised individual, also agreed on the identified training needs. Many respondents stated that delay in handing the KCA over to the Council could adversely affect the optimistic attitudes of the communities and their support of conservation efforts.

Everyone interviewed reported the negative impact of the insurgency on the functioning of local institutions and project operations. The Maoists forcefully took many goods and equipment from the project in December 2004, despite repeated appeals from the local people, all the major political parties, human rights organisations and the media not to disturb project implementation. Many respondents reported that the Maoists label the KCAP as an 'American project'. However, the locals believe that the real intention of the rebels was discrete the project in order to create their own grass-roots institutions, which proved difficult in the presence of the popular project. The impact of the state security forces on project operations and the livelihoods of the local people was reported as making it 'difficult to survive'.

7.2 Impact of KCAP

In the light of the results in Chapters 5 and 6 and the views of local people (Section 7.1), the following section presents the overall impact of the KCAP.

7.2.1 Conservation of Wildlife and Forests

Wildlife: Studies conducted in the Kangchenjunga area, prior to the inception of the KCAP, report the absence of livestock depredation by common leopards and wild pigs (Sherpa 1994; Yonzon 1996). Yonzon (1996) also reports the Himalayan tahr as a missing ungulate from the KCA. However, recent findings on the status of wildlife indicate an increasing trend in barking deer, blue sheep, tahr, wild pigs, porcupines, monkeys and many species of birds (Mountain Spirit 2003; Loksam 2003; WWF-NP 2005b). The case study results show not only an increase in wildlife populations in general, but also in crop raiding by Himalayan black bears, Assamese and Rhesus macaques and wild pigs in the KCA, as well as livestock depredation by common leopards since 2002 and increasing yak calf depredation by snow leopards. Unlike livestock depredation, crop losses to wild animals are not a completely new phenomena (Sherpa 1994; Yonzon 1996), although losses have intensified in recent years. The success of wildlife conservation turns into a considerable cost for many (poor) farmers. In many respects, wildlife threaten the livelihoods of local inhabitants due to growing livestock and crop losses (Loksam 2003; Mahato 2003; Toccoli 2004). Most of the local respondents believe that crop and livestock losses to wild animals from 2002 onwards and the strict conservation measures against collection of forest products out weigh the project's development benefits. Unfortunately, the poorest of the poor and the most vulnerable households seem to bear the heaviest brunt of conservation measures, as their subsistence livelihoods depend highly on forest and wildlife resources and marginal farms are more prone to wildlife raids.

The reports of the subsistence hunting practices of Limbu and Rai communities in the KCA (Yonzon 1996; Mountain Spirit 2003) are reinforced because ex-hunters strongly express an intention to continue hunting wildlife. Almost everyone interviewed mentioned that the increasing wildlife population was their main concern, and they expected the KCAP to find a solution to the growing wildlife-people conflict. Many respondents believe that the solution lies in eco-tourism development, sustainable wildlife harvesting and the establishment of compensatory mechanisms for livestock and crop losses. These options are prescribed in the draft KCA Management Plan 2005–2009 and incorporated into the KCA Conservation Regulations 2005, which should be realised. Surely the community-based sustainable harvesting of many crop raiding wild animals such as wild pigs, barking deer and tahr could bring considerable benefits to local communities and minimise crop depredation. Depending upon the status of snow leopard prey density, the issuing blue sheep hunting licences could also be considered in order to generate income for the KCA-MC, as was practiced before 1998. Blue sheep were also reported raiding crops in Yangma and Khambachen and competing with livestock for grazing.

The negative attitude of the KCA inhabitants towards wildlife conservation is directly related to crop and livestock loses because of wildlife (Loksam 2003; Toccoli 2004), which is also

common in other protected areas of Nepal (Mishra 1997; Kharel 1997). Similar to the reports of Loksam (2003) and Toccoli (2004), livestock depredation by snow leopards has been reported as the key threat to livelihoods in the upper KCA belts, especially for livestock owners. The KCAP has made efforts to address this threat by establishing a community-managed livestock insurance scheme with financial support from NCCR-North-South, Switzerland (WWF-NP 2005a and Chapter 6.2.3). However, the scheme covers only Ghunsa and Yamphudin herders, leaving Gola and Yangma herders prone to livestock losses from snow leopards and, as a consequence, to retaliatory killings. Thus, a similar scheme is essential for Gola and Yangma sector to ensure the sustainable conservation of snow leopards in the KCA. Likewise, the growing human-wildlife conflicts emerging from crop depredation by wildlife and restrictions on the harvesting of many NTFPs/MAPs remain to be reconciled.

The escalating human-wildlife conflict in the KCA is likely to threaten the sustainable conservation of many crop and livestock depredating wild animals. Bajracharya (2004) postulates that there is very little evidence that increases in wild animals leads to increases in crop and livestock depredation, or vice versa. However, the KCA case study results clearly reveal a strong correlation between them. The correlation was much stronger in the lower belts of the KCA where people are closely sharing wildlife habitats and practicing intensive slash-and-burn farming. In fact, the increased crop depredation by wildlife since 2002 directly corresponds with the first sightings of wild pigs and the increased occurrence (in both frequency and number) of barking deer, Himalayan black bears, porcupines, the Himalayan palm civet and different species of monkeys. The crop depredation problem seems to be exacerbated by the change in wildlife behaviour under protection. Many local respondents mentioned that wild animals no longer get frightened by the presence of people while raiding crops.

The long-term success of wildlife conservation in the KCA remains questionable (Grubin 2001; Mountain Spirit 2003; Toccoli 2004). An overwhelming majority of the interviewees believe that poaching of wildlife would increase in the absence of regular monitoring, anti-poaching operations, strong conservation awareness generation and some form of compensatory mechanisms in place. Even though many locals were seen to be tolerant of livestock and crop losses, almost everyone interviewed mentioned that wildlife conservation was not their interest. Thus, continued external investment in regular monitoring and anti-poaching operations seems necessary for the sustainable conservation of endangered floral and faunal species (Mountain Spirit 2003; Oli and Nepal 2003). In this regard, there is an urgent need to develop and scale-up conservation innovations such as crop-livestock insurance, conservation-friendly savings and credit schemes and sustainable wildlife harvesting to mitigate the negative impacts of wildlife conservation.

Forest: Contrary to reports of deforestation (Brown 1994; Dhakal 1996; Peterson 2000; Gautam and Watanabe 2004) and high grazing pressure (Carpenter 1994; Amatya et al. 1995) in the KCA, the most recent forest cover area studies show an increase of about 1% (Schubiger 2006) in forest cover between 1989 and 2000 and an improvement in general forest conditions, after continued degradation since 1978 (KCA-MC 2005; WWF-NP 2005b). The local interviewees especially mentioned this improvement, and direct observation also largely confirms their claims. The findings reinforce the notion that local people can definitely assess the condition of their environment (Colchester 1997). The evidence clearly indicates

the reversal of deforestation in the KCA owing to the KCAP's interventions, particularly its conservation measures. Moreover, many experts suggest that conservation efforts in Nepal could be considered successful if they are able to maintain wildlife populations and the quality of forest conditions under growing population pressure, poverty and political instability. Meanwhile, this relative forest conservation success has brought hardship to the many local inhabitants, which should not be overlooked by conservationists.

Although overall forest conditions have slightly improved in recent years, the degradation of MAPs seems to be continuing (Sherpa 2002; Oli and Nepal 2003); albeit at a diminished rate after the KCAP and the local institutions took control measures. A lack of alternative livelihood options is perceived to be the leading cause behind the continued extraction or 'poaching' of MAPs and other forest resources. Indeed, the age old MAP collectors from Gola, Ghunsa and Yangma and wildlife hunters from Tapethok and Yamphudin became 'poachers' with the establishment of the KCA,similar to the plight of many indigenous people living in protected areas around the world (Colchester 1997). Meanwhile, there is a strong realisation among experts that enforcing conservation rules to control poaching without addressing livelihood issues will not achieve conservation. The Country Representative of WWF-NP believes that "... even the guns can't control people when they are simply poor". For instance, some of the most dedicated locally hired KCAP staff reported and also admitted themselves 'poaching' MAPs after losing their jobs in 2004. This scenario clearly demonstrates the magnitude of the ground reality. Hence, one of the ICDP assumptions—that local people need alternatives to natural resource-dependent livelihoods to minimise and mitigate the negative impact on biodiversity—proved accurate (Chapter 3.2.1 and Table 3.4).

To some extent, the improved forest conditions of the KCA vindicate the ICDP assumption that local people support conservation efforts and adopt sustainable use practices if their basic needs are met and they are given ownership of and management responsibility for natural resources (Chapter 3.2.1 and Box 3.1). According to Mountain Spirit (2003), institutionalising community-based organisations (CBOs) and training them in natural resources management improved the local capacity to reverse deforestation and enhanced forest management in the area. Self-regulated forest fire control, the collection of only dry fuelwood from public forests, a decrease in slash-and-burn farming on private land, plantations on private and community lands and the adoption of fuel efficient cooking stoves by most of the KCA households could be seen as indications of sustainable forest management in practice. Consistent with the findings of Bajracharya et al. (2005), many locals perceive that the adoption of alternative and fuelwood efficient energy technologies—such as back boilers, improved cooking stoves and kerosene depots—have also reduced pressure on forest resources, as well as made their lives easier and more healthy.

Many KCA inhabitants have adopted forest conservation measures and view the KCAP's forest conservation interventions positively. The positive attitude of the locals towards forest conservation is shaped by the notion of forests being an important livelihood asset and the local ownership of natural resources under the Conservation Area Regulations. The KCAP is in the process of transferring almost the entire KCA forest management responsibility to 16 Community Forestry User Groups (CFUGs) with five-year operational plans. The role of CFUGs is critical to sustainable forest management and the long-term conservation of the

KCA (Hetts 1996; KCA-MC 2005). Indeed, community-based natural resource management provides local communities with an incentive to conserve biodiversity because of the opportunity to directly benefit from it (Salafsky and Wollenberg 2000). Such benefits, however, need to be critically examined. As a result of conservation measures, the majority of respondents from Gola and other upper belt settlements involved in timber and NTFP/MAP trades and the locals from lower belts engaged in slash-and-burn agriculture and NTFP trades to sustain their livelihoods strongly criticised the KCAP's forest protection interventions. To date, the KCAP's field presence, regular wildlife monitoring and development-oriented activities have been able to control the timber trade and minimise poaching of endangered MAP species and the excessive use of forest products. The question is, for how long the local people will continue to endure the 'tyranny' of conservation, especially after external investment is exhausted?

An overwhelming majority of the local respondents and most of the individuals in the key decision- making positions of the KCA institutions indicate that poaching of MAPs, the timber trade, slash- and-burn agriculture, and fuelwood and timber collection could increase in the absence of the KCAP staff and alternative livelihood options. They believe that sustainable conservation in poor areas like the KCA is only possible if community infrastructure and socio-economic development needs are integrated into conservation strategies, the way KCAP has done so far, and if sustainable financial and institutional mechanisms are created to increase local self-reliance.

7.2.2 Community Development and Livelihood Improvement

Compared to the findings of Uprety (1994) and Dhakal (1996), recent studies indicate a noticeable improvement in community infrastructure, health and sanitation conditions, literacy rates, access to education and income generating opportunities in the KCA (Loksam 2003; Mountain Spirit 2003; Locher 2006). The case study results also show tangible improvements in the overall livelihood conditions of the KCA inhabitants as a result of the KCAP interventions (Table 5.5, p. and Chapter 6.2.4). Most importantly, the significance of community contributions to the development process was largely recognised by the local people. The contribution of local communities to infrastructure development activities stands between 16–49% of the total estimated cost (Mountain Spirit 2003), exceeding the project's 10% prerequisite. To a large extent, the KCAP's benefits have reached every settlement and household (Mountain Spirit 2003; WWF-NP 2005b). Among the development-oriented activities, the 32 savings and credit schemes of Mothers' Groups have made the biggest impact in terms of empowering women in general and enhancing the livelihoods of the poorest women and their families. Over 790 women have directly benefited from income generating activities (Mountain Spirit 2003) and the results of development activities are promising (Loksam 2003; Locher 2006). However, a few scattered settlements and some poorer households have benefited much less, primarily due to geographical isolation and societal constraints. Locher (2004) reports that a women from the Rai ethnic community faced difficulty while receiving a loan from one of the Mothers' Groups because she was the only Rai member in a Sherpa dominated Mothers' Group. Indeed, bringing equitable benefits to the local people is one of the most challenging tasks for participative conservation (Hughes and Flintan 2001; Brechin et al. 2002), or for any development project (CARE/Nepal 2001).

Many of the local respondents believe that the project has largely benefited able individuals, active communities and the larger settlements on the trekking routes, in terms of infrastructure development and other community services, rather than the most marginalized inhabitants from small isolated settlements. Hence, more attention needs to be paid to improving the livelihoods of people from isolated settlements, as they often live closest to the forest and are the most dependent on forest and wildlife resources for subsistence livelihoods. The KCAP has a relatively small population size to cater for in terms of development needs, even though the area is remotely located, making any development efforts both costly and time consuming. It is also important to take into account the contribution of cardamom and chiraito farming to improving the livelihoods of many households. Therefore, the positive changes in the livelihoods of local people should not solely be attributed to the project's interventions, but also to the overall improving livelihoods in the area.

The need to invest more in livestock development and cardamom farming were stressed by most of the locals. The lack of project interventions in these two most important economic sectors is evident from the project annual and evaluation reports (Mountain Spirit 2003; WWF-NP 1998-2005c). Nonetheless, the view of the KCAP staff was that livestock growth leads to environmental degradation (e.g., grazing pressure) and cardamom farming mostly benefits the better-off households, when it comes down to prioritising project interventions with limited resources. There is no doubt that more tangible improvements in the livelihoods of the local people could be brought about if investment is made in these economically productive sectors.

The KCAP's community development-oriented activities have not only created tremendous expectations among the local inhabitants but also raised hopes for development among the adjoining communities. Through the DDC of Taplejung, many VDCs adjoining the KCA such as Papung, Ikhabu, Limkhim, Phawakhola, Mamankhe, Khewang and Surunkhim have repeatedly requested the KCAP (DNPWC and WWF-NP) and the Ministry of Forest and Soil Conservation to extend the existing KCA boundaries (WWF-NP 1999; Mountain Spirit 2003). Perhaps this is the first time in the history of protected area development in Nepal that local people have requested to be included inside a protected area after seeing the development benefits. During the inception phase, these VDCs were happy to be excluded from the area; whereas the KCA inhabitants expressed strong dissatisfaction over the conservation imposition. This is a clear indication of the KCAP's ability to address key social development issues along with its conservation agenda. The findings demonstrate that the initial top-down conservation approach did not necessarily fail to capture local support, as some authors report (Colchester 1997; Pimbert and Pretty 1997a). As the KCA falls within the proposed Sacred Himalaya Landscape (HMGN/MFSC 2005c), the possibility of expanding its boundaries is foreseeable. Henceforth, the challenge for the KCAP and the local Council is to find ways and means to reconcile the growing conflicts emerging from crop and livestock losses to wild animals and to meet the infrastructure and socio-economic development expectations of local communities in and around the KCA.

7.2.3 Local Capacity Building

Unlike the earlier understanding of the KCAP as a development project (WWF-NP 1998; Müller- Böker and Kollmair 2000), an overwhelming majority now perceive the KCAP as a conservation project interested in protecting wildlife, conserving forests and helping the local people through various community development activities. In general, this change in the attitude of the local inhabitants, as well as the district-based stakeholders, towards the project from sceptical and negative (WWF-NP 1998) to positive (Mountain Spirit 2003; Toccoli 2004; Locher 2006) was confirmed by this study as indicated by the vast local support for the project, regardless of age, gender, religion, ethnic groups or profession. Even the Maoists had to re-open forcefully locked project field offices because the project continued to run through the local institutions and the rebels were unable to justify the closure under such intense community pressure. However, the reverse attitude towards the KCAP was reported in Gola. WWF-NP (2001a) reported the inhabitants of Gola as the most supportive of the project, which contradicts the findings of this study. The majority of respondents from Gola displayed a strong negative attitude towards the project. This change in attitude—from initially supportive to recently pessimistic—has occurred because the KCAP did not meet their expectations for tourism and other community development needs and due to the placing of restrictions on the harvesting of MAPs and timber. Nevertheless, they continued to participate in project activities and effectively manage Mothers' Groups' savings and credit schemes, village sanitation and girls' scholarships. Those locals who criticised the KCAP expressed a strong preference for continuing to work with the project's approach instead of with the state park authorities alone. Such an attitude is perhaps a reflection of the project's capacity to invest in community development activities and the state park authorities' potential to reinforce strict conservation rules and traditional park-people conflicts.

An overwhelming majority of the respondents from Tapethok VDC perceived the KCAP positively, owing to the project's development benefits such as Mothers' Groups (MGs) funds, the childcare centre, school infrastructures and employment opportunities, as well as conservation awareness. In general, the Tapethok VDC residents were the most sceptical about the KCAP, of the four KCA VDCs, during the inception phase. It was clear from the results that the local people carefully weighed project benefits against costs, which subsequently shaped their overall perceptions, as well as support. Indeed, local support corresponds to the benefits they receive from projects (Colchester 1997; Salafsky and Wollenberg 2000). Furthermore, Locher (2006) also reports a strong correlation between women's participation in MGs (including KCAP activities) and the benefits they accrue from their micro-credit schemes. In this case study, the ICDP assumption that the support of local people depends on the benefits they receive from interventions appears valid.

Maoists have destroyed many protected area office buildings in Nepal (Bajracharya 2004). The KCA public infrastructures suffered a similar fate in 2002 (Table 5.4 and Chapter 6.2.3). However, the KCAP office buildings have remained intact due to local ownership, able leadership of the KCA-MC Chairperson, the commitment of project staff and, most importantly, strong support from the locals and the district level stakeholders. Nothing could show the local basis of the project better than this. The district-based human rights organisations, political parties, NGOs, educational institutions and the media have repeatedly

appealed to the warring parties not to hamper the KCAP implementation, through joint press releases in local and national dailies. ICDPs are often criticised for their inability to gain community support and active participation (Stevens 1997a; Colchester 1997; Wilshusen et al. 2002), but support for the KCAP from all concerned stakeholders is a strong indication of the effectiveness of participatory projects (Mountain Spirit 2003).

In the KCA, the traditional institutions such as the *kipat* and monasteries are dominated by the local elites. Nevertheless, recognising their role in the KCAP has proved relatively fruitful, rather than counter productive (Brown 2003a). Such a positive outcome has resulted from institutional transformation (Chapter 6.2.2). For instance, the KCA institutions such as the Mothers' Groups and forest users groups have improved access to forest resources for many households, who are not a part the *Kipat* system. At the sometime, leaving the *Kipat* as de-facto land holding system by the KCAP has minimised conflict between the KCAP and the *Kipat* land holders, which has also contributed to conservation. Indeed, "... conservation seems more likely to be effective when protected areas are partnerships in which indigenous people share responsibility and where management reflects appreciation of the values of local knowledge, values, and conservation practices and supports, maintains, and builds on those through dialog rather than coercion," (Stevens 1997a, p.25). The case study results show that traditional institutions can contribute to yielding the desired results, if the project personnel are aware of the potential and the limitations in forging socially just partnerships with local communities and their institutions (Pimbert and Pretty 1997b). The management regimes of sacred forests, for grass cutting, pastures and religious sites in the KCA are legitimised and strengthened under the Conservation Area Regulations ensuring continued traditional resource use patterns for sustainable conservation.

Most of the KCA institutions, particularly the Mothers' Groups and the KCA-MC, seem to have achieved the aspired level of participation (Arnstein 1969; Pimbert et al. 1997; Table 2.1 and Chapter 6.3), as they independently manage their institutional affairs and the Council is ready to take over the long-term management responsibilities of the area. The strong functioning of community-based organisation is an indication of effective participatory conservation serving the interests of local people (Pimbert and Pretty 1997a). Among the local institutions, Mothers' Groups appear the most effective in managing village level conservation and development-oriented activities. However, the capacity of most of the User Groups to participate actively in the decision- making process and manage project activities was deemed ineffective (Mountain Spirit 2003). Likewise, women's participation and influence at the KCA-MC level is still minimal compared to their male counterparts (Locher 2006). Considering the importance of the Council as a policy making and resource allocating body, the enhanced participation of women on the Council seems to be essential to bring gender equality and effectiveness to the KCA management. As most of the MGs have already proved to be effective decision makers and project implementers at the settlement level, their enhanced participation on the KCA-MC would not only improve women's overall social status in their respective communities, but also greatly contribute to the better management of overall KCA resources.

In many respects, the KCA-MC mirrors the existing social structure, because the overwhelming majority of the council members are educationally and economically well off

or socially influential individuals (Locher 2004). Mismanagement of community forest resources and project funds by a few members of the Council from Gola and Yamphudin has been reported. This is not surprising because many respondents mentioned that most of the UC and the Council members joined these institutions with the expectation of directly benefiting from the project and from public resources. Hence, the effective management of the KCA by the current UC members remains questionable.

In spite of the growing local capacity, almost all respondents suggested that the capacity of local people and their institutions, particularly the Council, needs to be enhanced to ensure the long-term community-based management of the KCA. In general, the KCA institutions are a long way from having equitable representation of women and men in the decision-making process and running their institutional affairs effectively in the absence the KCAP. Nonetheless, this criticism should be taken in the context of the larger picture of such institutions having their roots in the social structure of the KCA villages. Despite being a relatively small project with limited scope to bring about social change, the results are very promising (Mountain Spirit 2003; Locher 2006). Therefore, critical views and constraints should not prevent second generation ICDPs like the KCAP from further innovations in bringing transformation to the conservation and development process (Jeanrenaud 2002).

7.3 ICDP Strategies Applied in KCAP

7.3.1 Linking Conservation to Livelihoods

After analysing the case study results against the shortcomings of ICDPs (Box 3.2 and Box 3.3) and the challenges associated with people-oriented conservation approaches (Brechin et al. 2002; Brown 2003b), it became clear that the improved ICDPs like the KCAP have a great potential to deliver tangible, as well as balanced, biodiversity conservation and community development results in protected areas. The KCAP is managed based on the common ICDP assumptions (Box 3.1, p.... and Table 3.4), primarily banking on community participation to achieve the dual objectives of nature conservation and livelihood improvement for the KCA inhabitants through the capacity building of the local people. To realise both objectives, the KCAP has applied a number of interventions (Table 6.2) and participative strategies (Table 6.3 and Table 6.4) that are flexible enough to justly incorporate diverse stakeholder interests and build local institutions to manage their resource base (Becker and Ostrom 1995; Brechin et al. 2002; Brown 2003a, 2003b).

The protection of nature, particularly in developing countries, is dictated by global conservation discourse, which also determines the availability of funding (Colchester 1997). The KCA is no exception to this, as the area was declared a 'Gift to the Earth' in support of WWF's living planet campaign without the prior consent of the local people and the WWF network has funded the project since its inception. Grubin (2001) labels the KCAP as having a top-down approach but the project considers itself as having a bottom-up approach (WWF-NP 1998). Both are right. The case study findings indicate that it follows a mixed approach based on ecologically and socially negotiated solutions. The initially top-down implementation phase was reversed into a guided bottom-up approach, which has lead to its overall success.

Here, global conservation interests are reconciled or negotiated with local needs and priorities through participatory processes with long- term investment. In most developing countries, conservation projects also mean providing development opportunities along side conservation (Brown 2003a), which is demonstrated in the KCA. In fact, neither totally bottom-up nor fully top-down conservation approaches lead to desirable outcomes, because reconciliation is a locally adapted sensitive mixture of both.

Besides the national and international contexts, the success of participatory conservation projects largely depends on understanding that a community is heterogeneous with diverse interests and aims (Brechin et al. 2002). Accepting them as equal partners enables fair decision-making processes (Brown 2003b). The KCAP successfully applied the basic principles of participatory conservation by actively working with the women, men, children and other concerned stakeholders, beginning with activity design and implementation, through to joint evaluation and public auditing (Mountain Spirit 2003; Locher 2006; Table 6.3 and Table 6.4).

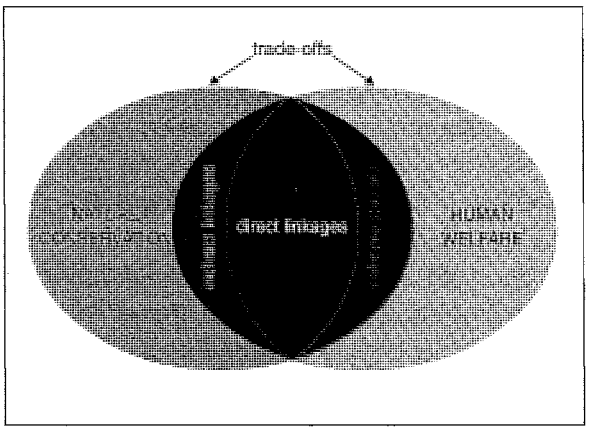
As Jeanrenaud (2002) suggests, community participation is likely to be more effective when the process is viewed as 'an end' instead of 'a means' of achieving conservation. For instance, the involvement of ex-KCAP staff in MAP poaching after losing their jobs and the ability of Mothers' Groups to effectively manage their savings and credit funds, as well as contributing to conservation, vividly demonstrates the essence of meaningful participation as an end. Indeed, the potential of local people as a resource for conservation (Colchester 1997; McNeely 1997; IUCN/WCPA 2003) is proved very relevant by this case study, as active community participation in this project has generated positive results on both conservation and community development fronts in one of the most marginalized areas of Nepal, even with the growing insurgency.

Achieving socially just conservation with equitable benefits to local people (Colchester 1997; Jeanrenaud 2002; Brechin et al. 2002) and delivering nature conservation results (Kramer et al. 1997; Oates 1999, Wilshusen et al. 2002) through ICDP approaches is much easier to postulate than to translate into action. However, the case study results show that the views of socially and ecologically orientated practitioners/professionals are important to reflect on and to guide us towards pragmatic conservation solutions, as there are no blueprints for sustainable conservation (Kollmair et al. 2005).

Ideally, ICDPs should establish direct linkages between conservation and sustainable livelihood needs and contribute to the achievement of quantifiable conservation results (Salafsky and Wollenberg 2000; Hughes and Flintan 2001; Worah 2002). Practically, the potential for linking conservation with livelihood strategies is limited, because conservation and human welfare goals at least partially oppose each other (Jeanrenaud 2002). For instance, the KCAP's conservation priority does not match with the socio-economic and infrastructure development interests of the poverty- stricken KCA inhabitants. To successfully address these two opposing interests through negotiated solutions, the KCAP has applied three main strategies. Firstly, the project interventions relating to the utilisation of forest products (e.g., fuelwood, timber, NTFPs/MAPs, etc.), pastures, wildlife and water resources, as well as to plantations, were targeted towards establishing direct linkages between nature conservation and the sustainable livelihoods of the local people.

Secondly, the project activities such as awareness, education and various forms of capacity building were aimed at contributing indirectly to both conservation and development efforts. Thirdly, the interventions such as infrastructure development, community services and compensations (e.g., livestock insurance scheme) were applied as negotiated trade-offs for reconciliation, rather than by establishing direct and/or indirect linkages between the two. Without careful trade-offs neither the reasonable protection of endangered species nor socially just and economically feasible community development goals seem reachable.

Figure 7.1: Linkages between Nature Conservation and Human Welfare



Source: own illustration with courtesy of Kollmair and Locher

The combination of these three intervention strategies has helped to address both conservation and livelihood needs of the local people in the KCA. Indeed, multiple strategies are essential to achieve compromise solutions as there is no such situation that can be considered 'win-win' (Brown 2004). Instead of trying to link every ICDP intervention with conservation, projects should address each issue independently, and holistically, in order to realistically address the wide range of issues pertinent to local, national and international contexts.

Even though poor linkages between conservation and community development activities appear to be one of the shortcomings of ICDPs (Salafsky and Wollenberg 2000; Worah 2000), the case study results show that it is nearly impossible, and also not necessary, to link every development-oriented activity with conservation to achieve intended results. Most of the development activities of the KCAP (Table 6.2) are neither directly nor indirectly linked to conservation as such, but they are applied as negotiated 'trade-offs' and contribute to the project objectives (Mountain Spirit 2003; Toccoli 2004; Locher 2006). Community development activities need to be careful integrated into conservation strategies to achieve conservation results and bring equitable benefits to the local people (Colchester 1997; Jeanrenaud 2002; Bajracharya et al. 2005). One way or another, the KCAP benefits have reached every settlement, as well as the poorest of the poor individuals and households, especially through the Mothers' Groups savings and credit endowments, girls' scholarships, solar lighting and community infrastructure development. The development activities of the KCAP have yielded active community participation and acceptance of protectionist measures, and thus conservation results.

As stated earlier, achieving full conservation goals often means restricting human use or economic development and vice versa (Salafsky and Margoluis 2004). The KCA inhabitants believe that livestock development and the sustainable utilisation of MAPs are the two most important economic sectors for their livelihood improvement. But neither of these potentials has been explored by the project (Mountain Spirit 2003), mainly due to conservation interests and restrictions imposed by national and global conservation policies. For instance, many

species of MAPs play an important role in sustaining and improving the livelihoods of local people (Sherpa 2002; Oli and Nepal 2003), but they are tagged as 'endangered species' and strictly protected. Unless such protectionist policies are relaxed, formally linking the conservation of these MAPs with sustainable livelihoods becomes impractical. Such linkage is even more difficult to establish in the case of life and livelihood threatening wildlife species, for example, the common and snow leopards. Likewise, further livestock development in the KCA is also questionable. On the one hand, many interviewees reported livestock competing with blue sheep for grazing space. On the other hand, the blue sheep population trend is linked to snow leopard conservation due to their prey and predator relationship (Yonzon 1996). Based on current domestic animal numbers and the local respondents' views on the growing grazing pressure, the KCA's pastures might be close to exceeding the limit of anthropogenic disturbance necessary to maintain ecosystems or grasslands (Colchester 1997; Adams and McShane 1996). Hence, further grazing pressure might negatively impact on the blue sheep population and subsequently increase livestock depredation by snow leopards, jeopardising the long-term survival of the snow leopard. Building some form of linkages between conservation and livelihoods is deemed more feasible through conservation awareness generation, the capacity building of local women, men and children and their institutions, and well negotiated trade-offs. Besides actively participating in project activities, the KCA institutions have independently enforced many conservation measures (Mountain Spirit 2003; WWF-NP 1999-2004; Toccoli 2004; Locher 2006).

7.3.2 Management Strategies

The KCAP management strategies discussed in the following section are derived from the literature reviewed, the lessons learned from community-based conservation in Nepal (i.e., expert interviews), the case study results and the author's practical experience. These ICDP principles and strategies are interconnected and, therefore, have to be applied holistically as integrated strategies to realise the intended results from people-oriented conservation projects. It makes very little sense if each principle and/or strategy is applied in isolation.

Transparency and Accountability: To date, the transparency and accountability issue per-se has not received much attention in ICDPs. However, the issue has strongly emerged in the field of good governance and natural resources management (CARE/Nepal 2001; WWF-NP 2004), as well as in this case study. Jeanrenaud (2002) suggests that conservationists and conservation organisations need to be more transparent, flexible and innovative to scale-up participatory conservation. The case study results also show that success or failure of ICDPs largely depends upon the project's ability to maintain transparency and accountability in management. The efforts of the KCAP to maintain transparency in implementation made their interventions effective (Mountain Spirit 2003; Chapter 6.2.5 and Chapter 6.3). The KCAP has also published management guidelines in Nepali for Mothers' Groups, eco-clubs and the NFE programme, which have helped local communities to understand and participate in subsequent project activities.

Even though the level of transparency can be debated, the case study results clearly indicated that ICDPs have a greater chance of achieving desired results, if skilled human resources transparently manage conservation projects. It was also evident from the results

that the need to maintain a publicly acceptable level of transparency and accountability for any development project in Nepal is likely to grow in the coming years with increasing public awareness, literacy and education and, mostly importantly, with the influence of civil society, the media and the Maoists, all advocating for social transformation. In fact, making institutional interactions explicit could produce a more reflective, analytic and effective intervention (Leach 1999). Most respondents suggested that transparency and accountability is a must in budgetary matters and implementation modalities in order to minimise conflict between and among stakeholders.

Long-Term and Phase-Wise: Recent ICDP studies suggest that donors and conservation organisations must be prepared to invest resources in conservation projects for longer (5–10 years or more) periods of time to succeed (Salafsky and Wollenberg 2000; McShane and Wells 2004). In other words, projects of short duration have a much greater chance of failure than long-term interventions (Pimbert and Pretty 1997a; Worah 2000). The inability of ICDPs to invest beyond the short-term (e.g., 3–5 years) project cycles (Hughes and Flintan 2001) was overcome in the KCAP through investment for over seven years by the WWF network with a commitment to continue until 2009. The head of WWF-NP and many other experts pointed out that at least a 7–10 year investment is necessary for ICDPs to generate visible conservation impacts, improve the livelihoods of local people and enable the smooth phasing out of the project. Indeed, the conservation results (i.e., wildlife and forest) of the KCAP began to show after only five years. However, sustainable conservation of the KCA is likely to depend upon the continuation of external inputs (technical and financial) that addresses biodiversity conservation and livelihood needs and aspirations of the local communities. Long-term investment seems to be even more important when creating new protected areas like the KCA to ensure that the area doesn't become a paper park. Many ambitious conservation projects fail to secure increased economic benefits for the local people in buffer zones, as a result of projects being short-term (Colchester 1997). The fact that the KCAP was the only long-term project in the area contributed to its success for mainly two reasons. First, the local communities actively participated in the project as they rely heavily on it to deliver development needs, which were ignored for decades. Second, it allowed for the phase-wise implementation of the project (Table 6.4), which is conducive to learning processes and adaptive project management. It is important to note that regular monitoring, evaluation and research have backed up the KCAP (Chapter 6.2.5). Indeed, a long-term project without a critical feedback mechanism in place could not ensure success (Hughes and Flintan 2001).

It was clear from the case study results that second generation ICDPs needs to be long-term as it takes time and resources to build trust with local people and to mobilise them to participate, enable policy reforms, bring equitable benefits to local inhabitants and develop partnerships beyond the local communities. Likewise, a longer project period is necessary to institutionalise community- based organisations to sustain project efforts and facilitate adaptive management process against a background of dynamic ecological processes, social transformation and political and economic trends. In fact, its longer duration enabled the KCAP to be impact driven instead of delivering quick donor-pleasing outputs (Worah 2000; Hughes and Flintan 2001).

Despite the KCAP being a relatively long-term project and the fact that the WWF-NP staff consider the project exit strategy as one of the most important aspects of sustainable conservation, no comprehensive project phasing out strategy has been devised so far. The KCA management plans, KCA regulations and the process of handing over the KCA to the KCA-MC are viewed as a part of the project's exit strategy. Nevertheless, the interventions described in the KCA management plan alone are unlikely to meet the foreseeable conservation and community development challenges of the area. Without having a concrete project withdrawal plan and realising it, the dependency of the local people on the KCAP to deliver all forms of development needs, as well as tackle conservation issues, is likely to grow further, which could undermine local self-reliance and sustainable conservation.

Project Staffing: In participatory conservation, local people and professionals play an important role in delivering conservation and community development results (Pimbert and Pretty 1997; Jeanrenaud 2002). Colchester (1997) also suggests that conservation projects are more effective when local people share responsibilities and when employment opportunities are created for locals to defuse conflicts. The case study findings seem to reconfirm these claims, as the participation of locals as community members and project personnel has contributed to the KCAP's success. Locally hired and trained project staff, representing all ethnic groups in the area, have played the most prominent role during the insurgency, particularly in the absence of senior level staff in the field offices (Mountain Spirit 2003). Since December 2004, the local institutions with technical support from the local ex-project staff, have been managing most of the KCAP activities. In this regard, the project's investment in training its local personnel to upgrade their skills and knowledge has greatly paid off.

According to Hughes and Flintan (2001), many ICDPs fail because they are designed by expatriates with limited time, local participation and understanding of the local contexts, and are implemented by outsiders. When it comes to the issue of outsiders, one has to make the distinction between national and international. The KCAP has been designed and managed by ICDP experienced Nepali professionals and locally hired staff based on stakeholder consultations, gender sensitive needs assessments and gender disaggregated socio-economic survey findings (WWF-NP 1998; Mountain Spirit 2003).

The KCAP experience shows the importance of having project designers involved in the implementation to ensure continuity from conception to realisation. In fact, one should not undermine the function of so called 'outsiders', as conservation is embedded in broader socio- economic, political and environmental issues, and external inputs are often necessary for successful ICDP design and implementation (Brechin et al. 2002; Brown 2003b; Pimbert 2004). The KCAP has relied on outsiders (Nepali) to manage the project due to the project's inability to recruit managerial level staff from the area, as well the need to incorporate staff deputised by the state government. The presence of government staff (e.g., DNPWC) appeared essential to deal with poaching issues that could not be resolved through community sanctions alone. Similarly, trans- boundary poaching of MAPs and wildlife remained beyond local control, requiring national level action (Brown 2003b).

The project-staffing issue is not only about locals versus outsiders, it also deals with wider social concerns (Mountain Spirit 2003; Locher 2006). For instance, the KCAP has lagged behind in employing female staff, effectively mobilising government staff and promoting local staff to take over managerial level responsibilities (Mountain Spirit 2003). The case study results reveal that effective ICDP management in rural areas requires a well-balanced—locals versus non-locals, males versus females and experienced versus inexperienced—staff composition. The ability of local staff to work adaptively in the local context, the capacity of experienced staff to guide towards intended results and the motivation of inexperienced staff to produce positive results have played a profound role in making the KCAP successful. Such composition could prove fruitful for any development project dealing with dynamic social and ecological processes.

Gender Sensitive Development: It is fact that women represent half of the total population in the KCA (WWF-NP 2001a). However, they remain the largest disadvantaged group with fewer rights, lower education, less income, longer working hours and shorter lives than their male counterparts. The overall situation in the KCA is similar to that in the rest of the country, yet there are small nuances that should not be ignored. For example, the status of women in Sherpa, Bhotia, Gurung, Tamang and Tibetan refugee communities is relatively higher than in other ethnic groups (Dhakal 1996; WWF-NP 2001a). Nevertheless, the gap between the socio-economic, educational and decision-making power at the household and community level between women and their male counterparts has substantially lessened with the integrated gender and development interventions of the KCAP (AMANATA 2001; Mountain Spirit 2003; Loksam 2003; Locher 2006). The gender and development interventions of the KCAP focus on the empowerment of women through policy reforms (Chapter 6.2.2), economic independence (Chapter 6.2.4 and Table 7.2) and improved access to literacy for women and education for the poorest girls (Chapter 7.1.2 and 7.1.3). However, the KCAP's women's development approach is advocated in a less radical way to ensure social cohesion and to promote strong cooperation between men and women and among the different ethnic groups (Mountain Spirit 2003). In pragmatic terms, the author has learned enough from the ACA and the MCA to understand that radical gender-development approaches can easily provoke resentment among men against women, which can lead to negative attitudes towards the project and hamper women's cooperation in participatory nature conservation.

Based on the lessons learned in the ACA, the KCAP has made innovative policy reforms, by legally ensuring over 30% women representation on the community-based decision bodies of the KCA. This is the first time in the history of protected area management in Nepal where such a gender sensitive institutional setup has been legitimised in the form of Mothers' Groups. Such a portion of representation is considered desirable for the voicing of unheard voices (Dahlerup 1998, in: Locher 2004), primarily those of women, ethnic minorities and disadvantaged groups (the so called *Dalits).*

Locher (2006) suggests that the KCAP must be rated a successful project in increasing women's status, even in comparison to the ACA and Nepal's general policy on women's development. Indeed, the effectiveness of Mothers' Groups in managing the KCAP interventions and institutional affairs at settlement level is highly appreciated and praised

by almost everyone interviewed, including the participants of the stakeholder consultations. According to Locher (2006), the KCAP's success is derived from three well-balanced women's development strategies. The first strategy is related to the integration of a more recent approach in the overall understanding, which comprises elements of gender mainstreaming. Here, the overall strategy is served by providing gender sensitisation training to all staff and conducting a gender-disaggregated socio-economic survey. This strategy addresses both practical and strategic gender needs with a strong focus on women's empowerment. The second strategy is the implementation of a wide range of holistic activities based on gender-sensitive needs assessment within the overall strategy to complement and strengthen the women's development process (Table 6.2). The third strategy is that the KCAP addresses women's development needs both separately and in an integrated way. This is to ensure socially justifiable 'positive discrimination' (e.g., Mothers' Group as a separate entity for women only and only girl's scholarships) in order to minimise gender gaps speedily and provide room for comparative social development (e.g., UGs, UCs and KCA-MC as institution for both sexes). The gender-development strategies applied by the KCAP have significantly contributed to increasing women's status and the overall project outcomes (Mountain Spirit 2003; Locher 2006). The women-development approach adopted by the KCAP within the conceptual framework of the second generation ICDP serves as a positive example of pragmatically feasible and socially just (Wilshusen et al. 2001; Locher 2006) ways and means to achieve encouraging results from participatory conservation.

Protected Area Boundaries: Clearly defined boundaries in terms of access to, and management regimes of, resources (e.g., water, forests) can bring effectiveness to natural resources management (Becker and Ostrom 1995; Ostrom 1999). Generally, physical boundaries of protected areas are drawn based on ecological parameters. Many experts suggested that ecological-based protected area demarcation is essential for conservation. Nevertheless, Nepal's protected areas are created mainly on the basis of forest cover, rather than on ecological principles. The ground reality is that such a way of demarcation often undermines community-based management approaches due to incompatible resource use patterns and management regimes, i.e., traditional forest users remain outside the protected area while their forest resources become part of the park, creating a direct park-people conflict, as well as management challenges. In the light of past experiences of drawing protected area boundaries based on the ecological principles (e.g., the ACA still has this problem on its southern borders), the KCA was re-demarcated to ensure that the boundaries are compatible with the local resource use patterns in order to facilitate effective community-based natural resource management (WWF-NP 1998, 1999). This has strengthened traditional forest use patterns and the overall management of the area as well as re-created the local ownership over natural resources. Hence, the notion of demarcating protected area systems according to ecological parameters and/or forest cover needs to be reviewed from a participatory conservation perspective. Any scientific basis or feasibility basis for ecological-based protected area demarcation can also be challenged, especially from a migratory wildlife conservation point of view.

Policies: The inability of conservation projects to reform policies (Pimbert and Pretty 1997a; Hughes and Flintan 2001) was largely overcome in the KCAP through the promulgation of conservation area regulations, as advocated by Brown (2003b). The study results largely

support the '8 design principles' of community-based natural resources management prescribed by Becker and Ostrom (1995), as the KCA institutions have managed their natural resources, including wildlife, within the framework of formal conservation area regulations and operational plans, as well as informal institutional norms and values. However, attention should be paid to two key areas while applying the '8 design principles'. The first point is that the local population should be able to understand the influence of external factors and function adaptively under the changing demographic, socio-economic, political and ecological conditions (Brechin et al. 2002; Brown 2003b). The second point is that it is important to find ways to link site-level resource management regimes to national policies, and beyond, to achieve a greater impact (Zimmerer 2000). Legitimising Mothers' Groups and ensuring at least 30% women's representation on decision- making bodies of the KCA committees are examples of scaling-up conservation policies. According to the Director General of the DNPWC the Mothers' Group policy has already been replicated in the buffer zone areas of Nepal.

Project Management: An adaptive project management approach is key to ICDP success, as it enables a prompt response to dynamic social, economic and ecological processes (Pimbert and Pretty 1997a). 'Adaptive' means taking action to improve a project based on the results of monitoring (Salafsky and Margoluis 2004). The systematic documentation of the implementation of the KCAP and the incorporation of the lessons learned into practice have contributed to the project's success (Mountain Sprit 2003). The KCAP has modified its interventions and implementation modalities based on concerns raised and feedback provided by local people, donors, project evaluators and researchers alike. Joint project evaluations conducted by the project in recent years are part of the documentation and sharing of lessons learned at the wider stakeholder level (Mountain Spirit 2003). Likewise, public auditing reflects the project's response to the overall socio-political changes taking place in Nepal.

The ability of project management to continue with conservation efforts through the KCA institutions and district-based NGOs when the Maoists locked the project offices exhibits such adaptive measures. The lessons learned and recommendations made in previous years are well reflected in the annual plans for the following year. The head of WWF-NP and the Director General of DNPWC believe that the success of any ICDP, including the KCAP, depends on the project management's competency to respond and adapt to changing circumstances and to harness meaningful community participation. Adaptive management approaches appear more important in volatile political circumstances, as was the case in the KCAP.

Working Partnerships: The partnership approach to protected area management is a challenging one, but it is perhaps the only legitimate and socially just way of making a difference in participatory conservation (Colchester 1997; Brown 2003b; Brechin et al. 2002). The case study results show that conservation projects seem more likely to be meaningful when efforts are made to work in partnership, not only with local people, but also closely with the government and other conservation, development and research institutions. Despite enormous difficulties during the initial phase (WWF-NP 1998; Müller-Böker and Kollmair 2000), most of the experts believe that the partnership between WWF-NP and DNPWC

enabled the timely endorsement of the KCA re- demarcation and conservation policies, which has created local governance over resources and provided a social and legal framework for the community-based management of the area. The threat of legal action by the DNPWC staff as the 'stick' and the delivery of development-oriented activities by the project as the 'carrot' have worked together to produce a balanced management approach.

ICDPs are often criticised for being resource intensive (Worah 2000; Hughes and Flintan 2001), and such understanding was common among the expert interviewees, including the head of The Mountain Institute (Appendix II). However, the case study results show that ICDPs can open the door for development partners to participate in conservation, making project efforts both cost effective and sustainable. The positive results of KCAP have been delivered with inputs of less than US $170,000 per year and between 12 to 27 staff in seven years. This is very cost effective when compared to the impact of many multi-million dollar projects and the fact that every other protected area in Nepal has between 30–100 park personnel with one army battalion (except in conservation areas) to make the difference. In addition to community contributions, the support from various international development organisations and district-based government and non- government institutions for community infrastructure improvements significantly aided the KCAP's efforts (Chapter 6.2.6). Indeed, partnerships come with a cost. It took almost four years for the KCAP to foster functional partnerships with individuals and institutions with diverse interests and development priorities, once again reinforcing the nature of long-term project (Worah 2000; Hughes and Flintan 2001).

One of the most critical issues being constantly raised in partnerships is acknowledgment for contributions and sharing successes. The KCAP experience shows that more partners join hands when projects make progress, and vice versa. Naturally, most partners compete for funding opportunities and to share successes, but often quickly point fingers at each other when failure happens. Normally conservation partners become competitors (e.g., for funding, credit) rather than genuine partners. The KCAP experience demonstrates that it is more complementary and cost effective when conservation organisations develop working partnerships with development organisations. For instance, partnering with the KAAA and the BBLL for the building of bridges enabled the KCAP to deliver the infrastructure development needs of the area (WWF-NP 2003, 2004). Complementing each other, sharing achievements among partners and working in a transparent and consultative manner have greatly helped the KCAP to gain community trust and participation (Mountain Spirit 2003; WWF-NP 2004).

Many expert interviewees including Dr Harka[1] Gurung viewed the process of the KCA management handover to the local community as Nepal's long over due second innovation in protected area management approaches; the first being the successful launching of the Annapurna Conservation Area Project. The emergence of this 'new conservation era' is the result of concerted efforts by the Government of Nepal, the DNPWC, WWF network, WWF-NP and, most importantly, the contribution of local women and men from the KCA who have

1 Dr Harka Gurung is one of the most prominent geographers, researchers and planners of Nepal. He also held many important government portfolios including the Minister of Tourism and the Vice Chairperson of the National Planning Commission.

successfully been able to put the lessons learned from the past into practice with the support of concerned stakeholders.

Project Role: Participatory conservation projects need to find ways to facilitate reasonable decision-making processes (Brechin et al. 2002; Brown 2003b). The experience from the ACA (Gurung 1996; Bajracharya 2004) and the case study results show that community-based projects should act as a facilitator of the process, not as a donor expecting immediate results (Hughes and Flintan 2001). The facilitation approach enables a learning environment and reduces conflict between and among stakeholders (Colchester 1997). The study results indicate that meaningful facilitation requires process-oriented and flexible project implementation approaches to initiate and scale-up interventions compatible with participatory procedures and processes, as well as with external forces and threats (Brown 2003b). Most of the respondents mentioned that committed project staff staying in the field, working closely with local people and coordinating efforts at various levels brought effectiveness to the KCAP management. Having the project head office within the area and staff stationed in all four sectors made it easy for the local community to deal with KCAP authorities and also for the KCAP staff to build rapport and gain community support (Loksam 2003; Mountain Spirit 2003; Locher 2006).

It is important to note that the district level stakeholders were suspicious and dissatisfied with the KCAP until 2001, while project personnel were busy with community mobilisation and the formation of local institutions in the KCA (WWF-NP 1999; Mountain Spirit 2003). The most important factors that contributed to the successful facilitation of the KCAP management process were a simple entry approach with a low profile in the beginning to gain community trust and the establishment of a liaison office in Taplejung during the second phase to coordinate at the district level (Chapter 6.3). The KCAP's efforts to ensure continued interaction between and among the stakeholders at the village, district and central level with clear working modalities and a long-term vision contributed to making the project more successful.

7.4 Summary of Research Results

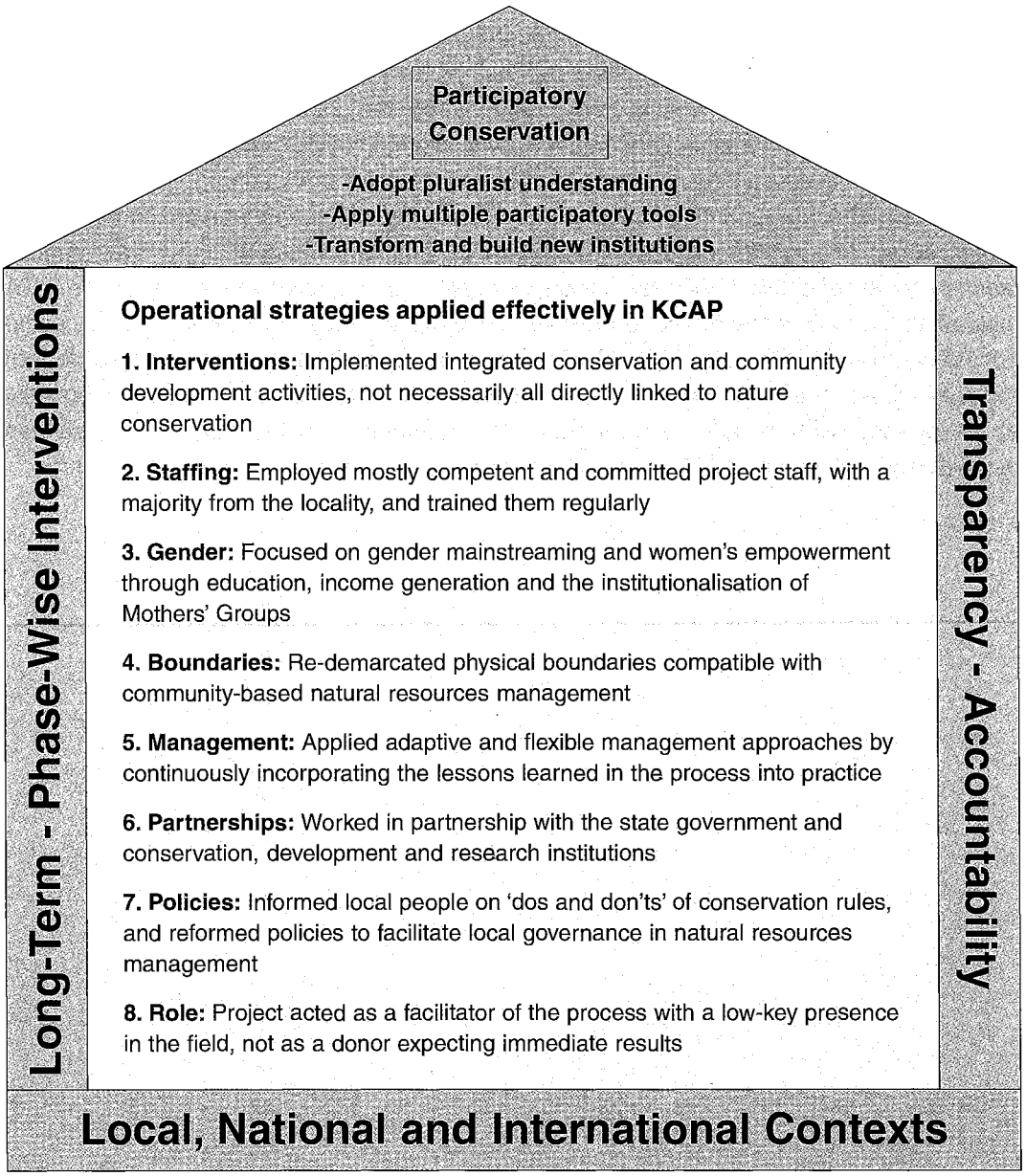
Based on the analysis of the research results within the conceptual understanding of ICDPs, Figure 7.2 summarises the key learnings from the KCAP in the context of reconciling or negotiating nature conservation priorities with the livelihood improvement needs of the local people. The KCAP has made a serious attempt to address the fundamental weakness of participatory conservation by enabling the local communities and their institutions to make self-motivated, self- determined and consensus-based decisions in project management. The KCAP has adopted a pluralistic understanding while managing the project in order to incorporate the diverse, and often conflicting, interests of the stakeholders (e.g., local, national and international). KCAP focused on facilitating an inclusive decision-making process (Chapter 6.3) and applied multiple participatory tools (Table 6.3) to identify and devise needs-based integrated and holistic interventions (Table 6.2) and transform traditional institutions in order to build new conservation institutions, to recreate local ownership over natural resources and sustain conservation and community development efforts (Chapter 6.2.2 and Figure 6.1) in the KCA.

The results indicate that protected areas can be effectively managed in partnership with local communities. The results also demonstrate that participatory conservation projects need to be impact driven, which requires long-term commitment and investment from national and international conservation organisation to materialise. Long-term investment with phase-wise intervention strategies (Table 6.4) and transparency and accountability in project management (Chapter 6.2.4 and 6.3) are seen as the two pillars of the KCAP. The longer-term project is essential to build trust between project staff and local people, bringing equitable benefits to marginalised individuals and groups and enabling policy reforms to scale-up conservation impacts and institutionalise community-based organisation for sustainable conservation.

The experience, knowledge and skills and, most importantly, the commitment of individual project staff/professionals appear as important factors for effective ICDP management. The employment of local staff seems to play a pivotal role in making participatory conservation projects effective. The KCAP has successfully applied gender and development approaches, evidenced by the fact that the Mothers' Groups are the most effective body in managing project interventions (Chapter 6.2.2 and 6.2.4). Even though working in partnerships is extremely challenging, it is one of the most cost effective and sustainable means of delivering results.

The contexts in which conservation projects are designed and managed are important, as project outcomes are influenced by various local, national and international factors. In the case of KCAP, external factors such as markets for local products, political instability, tourism trends and international funding have profoundly shaped the project. Likewise, global conservation and social discourses have also influenced the project. The gender sensitive project management approach and the push for KCA handover to the local Council are such examples of such global influence. In fact, conservation is not only seen as a global agenda by the experts, but also understood as a business and livelihood strategy of many individuals and their institutions involved in the conservation field. The policy favouring protected area management by only the KMTNC (the Government of Nepal reversed this policy in May 2006) and the undermining the KCA handover to the KCA-MC under the King Gyanendra's regime is one of the examples of national politics negatively influencing the innovations of participatory conservation.

Figure 7.2: Summary of Research Results



Source: own research data

7.5 Conclusion

Despite the mixed results of ICDPs on a global scale, the KCAP appears largely successful in achieving its conservation objectives, as well as improving the livelihoods of the KCA inhabitants. The case study results clearly demonstrate the potential for second generation ICDPs to make a difference in conservation, even though the path is challenging and both time and resource consuming. The case study results indicate that participatory conservation projects require long- term investment and should be transparently managed by committed professionals to achieve reasonable conservation impacts. Although the KCAP can be labelled as an effective ICDP, its real success will depend upon the ability of the KCA institutions to sustain the project efforts and continue to further the cause of sustainable conservation in the area after the KCAP's withdrawal. It is still a bit early to conclude that the KCAP is a successful ICDP model. Nevertheless, the KCAP has shown promising results at the project level on both conservation and community development fronts, and has established institutional and financial mechanisms to enable it to succeed in the long run.

8. CONCLUSIONS, RECOMMENDATIONS AND OUTLOOK

8.1 Conclusions

Since the 1980s, people-oriented conservation approaches have been applied to reconcile conservation and livelihood interests in protected areas worldwide and in Nepal. This case study examines the participatory conservation strategies effectively applied in the Kangchenjunga Conservation Area Project (KCAP) to address nature conservation and local livelihood needs.

The Kangchenjunga Conservation Area (KCA) is rich in biological diversity but the overwhelming majority of local inhabitants, who are mainly subsistence farmers, remain under privileged. In many respects, the biological diversity of the KCA is living proof of a successful co-existence between nature and humans. However, in recent years the critical balance of this co-existence seems to be under some threat due to poisoning of carnivores, the timber trade with Tibet and poaching of musk deer and Himalayan black bear. The balance is undermined by limited livelihood options, a weak state presence and a lack of skills, knowledge and technology to meet biodiversity conservation and livelihood needs under growing population pressure, poverty and political instability.

In general, the case study results indicate that the KCAP has largely achieved its objectives with an increase in wildlife numbers, improvements in forest condition, the enhancement of the livelihoods of most of the local inhabitants and the creation of a positive attitude towards conservation among most of the local inhabitants. The project has also effectively mobilised community participation in project management and gained strong support from district-based government and non- government institutions, as well as from all of the major political parties and media houses. These promising results have been delivered with inputs of less than US $170,000 per year and 12 to 27 project personnel over seven years.

The results show that an improved ICDP can effectively deliver positive biodiversity conservation and community development outcomes in protected areas. Indeed, ICDPs need to negotiate and carefully integrate livelihood issues into biodiversity conservation strategies. In addition, projects should be long-term (at least seven years) and transparently implemented, by skilled and committed personnel, in a phase-wise manner with regular monitoring, evaluation and research inputs. In fact, long-term conservation projects provide both professionals and locals with a more reflective learning process and adaptable management.

The KCAP has successfully incorporated diverse knowledge, views and interests and has applied locally adaptable participatory tools to reconcile the conflicting interests, needs and

priorities of its various stakeholders. It has also built the capacity of local women, men and children and their institutions to implement and sustain conservation and social development efforts.

Factors that seem to have created the conditions for the success achieved thus far include the project (being the one and only long-term operational project in the area) employing project personnel mostly from the locality with ethnic/gender representation, gender-focused and partnership development approaches and being managed by largely competent Nepali professionals. Indeed, the project was able to operate even during the most critical period of the insurgency owing to the strong commitment shown by local staff, mothers' groups and the Council Chairperson. The Conservation Area Regulations 2000 (draft 2005) re-created local ownership of resources, resulting in enhanced community participation and effective natural resource management. As a result of its holistic design and adaptable implementation, the KCAP has been able to harness active community participation in all project activities, from design and implementation, to public auditing and joint evaluation.

The key challenges emerging from the success of the project are primarily related to the increasing crop and livestock depredation by wildlife; the growing expectations of the local people for further community infrastructure and livelihood enhancement-oriented activities; and the need to improve the institutional capacity of the various KCA committees and the Council to manage and sustain conservation efforts. The limitations of restricting the consumptive use of MAPs, NTFPs and the timber (trade), in the absence of alternative livelihood opportunities, are becoming apparent. Indeed, poor people who depend on forest resources and the hunting of wildlife for their subsistence livelihoods are suffering the most from conservation measures. A further delay in the KCA handover process, or a reversal of the decision, is likely to jeopardise the mutual trust forged between the project and local communities over the years; thus, potentially undermining the success achieved so far.

Often, factors such as the country's current political instability and economic trends affect conservation and livelihood outcomes more than project interventions. Conservation in recent years is neither the priority of the state nor of the local people who are focused on the growing insurgency and poverty alleviation. Thus, without constant external support for the protection of endangered floral and faunal species, and to address the needs of local inhabitants, it appears impossible to achieve even a reasonable level of conservation success. Sustainable conservation is much harder to realise in the KCA—even with a desirable community-based natural resource managemen t mechanism in place—as it is one of the most socially and spatially marginalised and poverty stricken areas, in one of the most fluid socio-political environments.

Despite the criticisms, experts in Nepal perceive people-oriented conservation approaches as a way forward for sustainable conservation. Hence, second generation or enhanced ICDPs are likely to play an important role in reconciling biological diversity conservation priorities with the sustainable livelihood aspirations and actions of the local people living in and around protected areas and eco-regions.

The main conservation challenge is to manage existing protected areas more effectively and continue to further the cause under the growing population pressure, poverty and political instability, through real people-oriented conservation approaches (Brown 2003b; Kollmair et al. 2005), in order to achieve sustainable conservation solutions that are "ecologically sound, socially and politically feasible, and morally just" (Brechin et al. 2002, p.44).

8.2 Recommendations

To address the conservation challenges outlined above, recommendations relevant to the specific implications pertinent to the KCA, and to participatory conservation in general, are drawn below.

8.2.1 Specific Recommendations for KCA

There are a number of critical issues that need to be addressed for the effective community-based management of the KCA. The main recommendations are as follows.

- *Sustainable harvesting:* Human-wildlife conflicts have increased in the KCA since the year 2002—indicated by increasing crop and livestock depredations by wild animals—and it seems that the problem is likely to grow in the future if conservation efforts are sustained. Therefore, the need to implement a variety of sustainable harvesting options for wildlife species such as wild pig, barking deer, tahr and blue sheep appears greater than ever before. The draft KCA management plan and regulations propose such sustainable harvesting practices. These need to be developed, tested and implemented with a strong research component in place.

- *Crop and livestock depredation:* Himalayan black bear, snow leopards and many other crop and livestock depredating wild animals, which are strictly protected by the national red list and CITES, will continue to threaten the livelihoods of many KCA inhabitants. More innovative conservation interventions, such as the community-managed livestock insurance scheme, are required in order to address depredation issues more directly as 'trade-offs'. Attention should be paid to direct compensation as far as practicable, as losses from crop and livestock depredation incur at the individual household level, whereas development benefits from ICDPs occur mostly at the community level, thus mismatching costs and benefits.

- *Management handover:* The Government of Nepal should endorse the submitted KCA management plan and regulations, which are a pre-condition for the KCA management handover to the Council. Further delay of the handover process is likely to dilute the success achieved so far.

- *Exit and sustainability strategy:* The KCAP and the Council should jointly prepare a comprehensive project exit and long-term sustainability strategy in full consultation with concerned stakeholders and devise interventions to facilitate the transitional period.

- *External support:* At least 5–7 years technical and financial support from the KCAP, and/or any other external source, is required to enhance the capacity of the KCA institutions and make them less reliant on external resources. However, it must be clearly communicated that, without external inputs, external desired goals, such as the conservation of wildlife species, cannot be achieved.

- *Financing of the Council:* Sustainable financing mechanisms need to be established for the effective functioning of the Council. The Council's financial sustainability will depend very much on how conducive the government's policy is to the sustainable harvesting of MAPs/NTFPs, the growth of tourism and on investment by international conservation institutions. The WWF-NP has made a commitment to invest until 2009, which seems inadequate considering the scale of the management responsibilities that the Council has to take on and the limited potential for generating income from tourism and other sources in the foreseeable future.

- *Training of committee and Council members:* An overwhelming majority of locals raised the issue of transparency and accountability in project management and most of them were dissatisfied with the work performance of the KCA committees and the Council. There is an urgent need to train the committees and the Council members on social mobilisation, good governance, leadership and various natural resources management and development aspects.

- *Interventions in livestock and cardamom:* Despite livestock and cardamom farming being the two most important livelihood strategies of the KCA inhabitants, and the direct link between these and conservation issues, the KCAP has not intervened in these two areas. Interventions in these two important economic sectors are essential as they have great potential to improve the livelihoods of local people.

- *Income generating activities:* There is a need to find ways to scale up the income generation activities of the mothers' groups beyond the subsistence level to bring about tangible changes to the livelihoods of women (especially the poor) and their families.

- *Women's representation:* Likewise, the representation of women on the KCA-MC also needs to be enhanced to ensure equitable decision-making processes and resource distribution and management.

- *Trans-boundary poaching:* The need to control trans-boundary poaching is an urgent one. Despite the issue repeatedly appearing in research findings and the KCAP's technical reports, no firm action has been taken to curb on-going poaching, especially the poaching of MAPs, by the Tibetans. This will require bilateral negotiations between China and Nepal, and local institutions will need strong support from the state in order to translate national policies into action.

- *Partnerships for development:* The KCAP and the Council need to maintain and develop strong partnerships with development organisations and government line agencies to meet the community infrastructure and socio-economic development-oriented needs of the KCA.

- *Savings and credit schemes:* It would be interesting to replicate mothers' groups savings and credit schemes for User Groups (e.g., mostly targeting men as demanded) to create an additional financing mechanism for sustainable conservation and community development. Such a scheme should be linked to alternatives to natural resource dependent livelihood strategies, and to livestock and crop depredations, which are the most pressing issues in the area.

8.2.2 General Recommendations for ICDPs

It is clear from the case study results that second generation ICDPs should adopt the principles of inclusive participation and transparency and should apply a wide range of project management strategies for success. These strategies should be compatible with the local environmental, socio- economic and political conditions, as well as with global conservation and development trends. The following recommendations could be considered as pathways for second generation ICDPs.

- *Biodiversity and livelihoods database:* A comprehensive database is essential to monitor the status of biological diversity and the livelihoods of local people in protected areas over time. Unlike many other ICDPs, the KCA feasibility studies provided enough empirical grounds for the comparative analysis of the status of forests, wildlife and the livelihoods of local communities. In this context, continued research is necessary to document the development processes, particularly the socio-economic transformations, and ecological processes that are taking place in and around protected areas over time with various local, national and international influences. In fact, the development issues (including conservation) raised by empirical research should form the basis of improvements to participatory conservation.

- *Impacts not results driven:* ICDPs should be driven by impacts instead of by immediate results, and should find ways to invest over a period of at least seven to ten years. A longer period of time would enable projects to bring about tangible changes in forest conditions, wildlife populations and the overall state of the local environment, as well as improve the livelihoods of local people.

- *Phase-wise strategies:* ICDPs are likely to succeed if they are implemented with phase-wise (e.g., from inception to phasing out) strategies that are flexible enough to enable learning processes and to build on monitoring, evaluation and research findings.

- *Locally responsive interventions:* The transfer of knowledge and approaches should be practicable and socially just. The institutionalisation of mothers' groups in the KCA is an example of a locally responsive project intervention, adapted from the ACA, and replicated in buffer zones.

- *External input:* In general, the strict protection of biodiversity seems to be a global and national agenda rather than one of local interest and, therefore, continued external input (technical and financial) is essential to protect endangered faunal and flora species, in particular, and conserve biological diversity, in general. It is unrealistic to expect local

communities to sustain the project's conservation efforts and, most importantly, to protect livelihoods and life- threatening wildlife species, without external support.

- *Partnerships:* Besides local communities and the concerned government authorities, ICDPs should find ways to develop working partnerships with a wide range of conservation, development and research institutions, in order to be cost effective, as well as to achieve greater impacts. Partnerships with development agencies have enabled the KCAP to invest its scarce resources more in conservation activities, while development organisations have addressed the many community infrastructure development needs of the area.

- *Negotiate conservation policy reform:* ICDPs should contribute to the reform of conservation policies through stakeholder negotiations in order to magnify the scope of community-based conservation institutions and enable sustainable resource use practices.

- *Staffing and capacity building:* Highly committed and skilled professionals and trained local people should together manage ICDPs and their skills should be constantly upgraded in line with the growing capacity of the local people and the scale of project interventions. The staff composition should reflect inclusive (e.g., gender, ethnic, caste, etc.) representation.

- *Gender mainstreaming:* ICDPs should focus on gender mainstreaming with an emphasis on women's empowerment. Mothers' groups in the KCA have shown promising results. They are more effective in resource mobilisation and management at the settlement level than their male counterparts, and their role in policy-making is also emerging. Indeed, the gender empowerment approach should be geared towards building a partnership between women and men for enhanced development processes, without undermining some of the established social fabric important for social cohesion.

- *Biosphere reserves:* As Nepal has managed buffer zones as an extended part of existing national parks and reserves, but has no biosphere reserves to date, the possibility of adopting biosphere reserves as an alternative conservation strategy for some of the existing and future protected areas should not be ruled out.

8.3 Outlook and Further Research

There seems to be no single model or approach to conservation as each protected area needs to be managed adaptively within its local, national and international contexts. However, the global trend, as well as the trend in Nepal, is certainly moving towards more inclusive participatory conservation approaches. Judging by the experts' opinions and recent political developments in Nepal, it would not be surprising if the management of many mountain parks is handed over to local communities and if the buffer zone communities of the Tarai parks are given more of a role in managing park resources in near future.

This research has critically examined and empirically documented ICDP lessons from the KCAP. As indicated earlier, a detailed study of the biodiversity (inventory) of the KCA is necessary to monitor changes over time. Due to the highly integrated nature of the project, with hundreds of activities, and the effects of each intervention on overall project outcomes, it is simply beyond the scope of this research to delve into the details of each intervention. The KCAP has applied most of the recommendations made in ICDP literature or people-oriented conservation approaches over the last 25 years. As a result, the project has delivered promising results on both conservation and community development fronts and has created new pathways for ICDPs.

The case study results clearly show that exclusively 'win-win' situations do not exist, as conservation projects brings development benefits with protection costs to communities and often the costs out weigh the benefits. Therefore, attention should be paid to finding ways and means of maximising the equitable benefits to the local people while sustaining nature conservation efforts within the prevailing environmental, socio-economic and political contexts.

A comparative study could assess the effectiveness and efficiency of the KCAP in delivering biological diversity conservation and community development results in the KCA. The impacts and strategies of the KCAP could be compared with the Manaslu Conservation Area and the neighbouring Makalu-Barun National Park and Buffer Zone projects because of their contextual similarities. The Annapurna Conservation Area is globally recognised as one of the (most) successful community-based conservation projects. However, the ACA still has no local body for its overall management and the process of transferring management responsibility to the local people has yet to begin, as initially envisioned in 1986. The adjoining VDCs of the KCA have repeatedly requested the KCAP, the Taplejung DDC and the Government of Nepal to extend the existing boundary, despite the fact that they were very happy to be excluded during the project inception phase. This is the first case in Nepal in which local people from outside a protected area have requested to be included, even though their motivation is development, not conservation, orientated. Comparative studies would further the learning process of ICDPs.

Past experience has shown that many local institutions fail to function as soon as project support is withdrawn or exhausted. Thus, studies should be carried out in a few years time to examine the sustainability of the KCAP's conservation efforts and the resilience of the KCA institutions. The ultimate success or failure of the KCAP will depend on the ability of local people and their institutions to adaptively manage the area with limited external inputs.

Depending upon political developments in Nepal, a detailed study on the impact of the insurgency on conservation should be conducted in the KCA and compared to other protected areas in Nepal. The KCAP has suffered less at the hands of the Maoists than other protected areas; in fact the insurgency seems to have positively contributed to conservation in the KCA. Further research would allow a greater understanding of the impact of the Maoist insurgency on conservation over time.

The combination of savings and credit schemes, non-formal education, girls' scholarships and the institutionalisation of mothers' groups have considerably improved the livelihoods of

most women in the KCA. However, the level of women's economic independence, social position and empowerment are subject to further investigation, along with the sustainability of the 32 savings and credit schemes. The impact of girls' scholarships on the recipients' lives and on their households (e.g., labour and income) needs further research within the framework of women's empowerment. In fact, the savings and credit schemes run by the mothers' groups are different from other micro-finance schemes, because they link the education of the poorest girls and conservation with income generation activities. Therefore, it would be interesting to research the magnitude of the impact of all three aspects and to explore whether such innovations could be integrated into economically driven micro-finance schemes.

Women in the KCA are found to be individually and institutionally more effective in managing project interventions than their male counterparts at the settlement level, but show less willingness to participate in the main decisions-making bodies like the Council. On the contrary, the majority of men were neither effective at the user group level nor at the Council level. A detailed study from an institutional perspective could help to understand the conditions influencing the participation of women and men in decision-making processes and the effectiveness of their actions.

Most of the KCAP's development-oriented activities are neither directly nor indirectly linked to conservation strategies, but they contributed towards the deliverance of expected conservation results as part of a carefully integrated package. The results also demonstrate the limitations of natural resource-based livelihood options when strictly protected endangered floral and faunal species are not considered for sustainable use. Thus, the ICDP assumption of the need to establish direct linkages between livelihood needs and conservation strategies for sustainable conservation needs to be rigorously tested on a wider scale.

A community-managed livestock insurance scheme for snow leopard conservation was established in December 2005, with support from NCCR North-South, after over three years of negotiation between the KCAP and the local communities/herders. The compensation process has already begun with encouraging results. As this scheme is the first trial of direct compensation-based snow leopard conservation, it has the potential to be scaled up across the Himalayas. Hence, a detailed study could examine the institutional aspects and impacts of the insurance scheme on snow leopard conservation and on the livelihoods of local herders, in order to understand the scheme's sustainability and potential for replication.

This case study results and the global conservation efforts clearly demonstrate that there are losers and winners in the development process (including conservation) and the process is influenced by various internal and external factors. Therefore, ICDPs face tremendous challenges while reconciling biological diversity conservation priorities with sustainable livelihood needs through negotiated settlements. It is even more challenging to establish socially just, ecologically sound and practicable community-based protected area management systems. Indeed, participatory conservation should be viewed as a learning process within development discourse providing social transformations over time. According to democratic values and norms, there are very few alternatives to inclusive participation for sustainable conservation. Thus, real people-oriented conservation approaches should be pursued and enhanced to ensure desirable outcomes for protected areas in particular and for nature conservation in general, for all concerned stakeholders.

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APPENDIX I: GUIDING QUESTIONS FOR INTERVIEWS

Individual information such as the name, age, sex, ethnic group, marital status, education, village, VDC and institutional affiliation of each local interviewee were recorded.

Ia: Key Questions for Interviews in KCA and Taplejung District Headquarters

A. General Awareness

- What do you know about KCAP? What is it? What does it do?
- What did KCAP tell you and others that it will do when it started, and what is it doing now?
- What does KCAP tell you about conservation? What is conservation?
- Did you join study tours and conservation awareness workshops? What did you learn from them?
- Has your attitude towards the KCAP changed over the years? Why or why not?
- Has conservation awareness increased among your fellow villagers? What are the indicators?
- Do you and your villagers participate in conservation work to benefit from KCAP's development activities or are there other reasons as well? What are they?
- What did you learn from KCAP? Is conservation important to you? Why or why not? Has health and sanitation awareness increased? What are the indicators?
- Why is KCAP providing scholarship to girls? What do you think about scholarships? Why is KCAP running health camps and building toilets?
- What are the main problems of the area?
- What are the main positive or negative changes brought to you and others by KCAP?

B. Project Management

- Do you like the way KCAP has been working? Why or why not?
- Why do or don't you participate in KCAP civilities? What are three main reasons?
- Is KCAP a success or failure? Why and why not? What are the indicators? Do you participate in KCAP activities? Why or why not?
- Who is making decisions about KCAP activities? Are the decisions fair?
- Will conservation and development activities, including Mothers' Group's savings and credit schemes, collapse when KCAP leaves or will they continue? Why or why not?
- How is the insurgency impacting on your life and on KCAP activities?
- How is KCAP benefiting you? Who benefits the most from KCAP?

C. People-Project Relations

- How do you assess the relationship between the KCAP staff and villagers over the years? What are the reasons behind the state (good, bad and so-so) of these relationships?

- What kind of relationship do you think there should be between KCAP staff and local people?
- Are you happy with KCAP? Why or why not?

D. Forests

- Have forests decreased, increased or remained the same after the establishment of KCAP? Why, how and where is this happening?
- Has the collection of non-timber forest products (NTFPs) and medicinal and aromatic plants (MAPs) increased, decreased or remained the same after the establishment of KCAP? Which species are collected, where, by whom and for what purpose?
- Are slash-and-burn practices continuing in government forests and on private land? Where and who are involved in this practice? Are controls necessary? Why or why not?
- Tourism development means that more timber will be needed for hotel construction and for firewood to cook more food, then how will you conserve forests?
- What is happening with the timber trade with Tibet?
- Is forest conservation important to you? Why or why not?

E. Wildlife

- Has wildlife increased, decreased or remained the same after the establishment of KCAP? Why is this happening?
- Have you or others seen any previously unseen wild animals? If yes, which animal(s) and where?
- Is KCAP conserving wildlife? Why or why not?
- Do you like KCAP's wildlife conservation work? Do you want to conserve wildlife? What are the costs and benefits of wildlife conservation?
- Do you and others benefit from wildlife conservation? Why and why not?
- Are there any rules about wildlife conservation? What are they? Who made them? Do people respect these rules? Who enforces these rules?
- Will people protect wild animals after KCAP leaves? Why or why not?
- Have you or any of your fellow villagers lost crops and/or domestic animals to wildlife? Which crops or livestock? How much crop or how many livestock did you lose?
- Which wildlife are causing the most problems? When did the problems start? How do you and other villagers deal with crop and livestock depredation?
- What is the best way to solve the depredation problem? Who should solve the problem and why?
- Who kills musk deer? Why do people kill them as they don't cause any problem for local people?
- Why did or didn't you participate in the snow leopard-livestock insurance scheme? What do you think about the insurance scheme?
- Will local people be able to manage the scheme in the absence of KCAP? Why or why not?
- How many snow leopards are found in the KCA?
- Has killing/poaching of wildlife increased, decreased or remained the same after the establishment of KCAP? Where and which wildlife species are poached? By whom?

F. Livelihoods

- What are your main livelihood strategies or income sources for living? How do most people make their living in the KCA?
- Has KCAP helped to improve your living conditions or livelihood and those of other villagers?
- What and how have KCAP's activities contributed to improving your livelihood? Has KCAP individually benefited you or not? If yes, how?
- What are the benefits and costs that KCAP has brought for you?
- What are the three most important advantages and disadvantages of KCAP for you?
- Is KCAP making your life difficult? If so, how?
- What are the strengths, weakness, opportunities and challenges of KCAP? Why is KCAP doing so many development activities?
- How important is KCAP to you and/or your fellow villagers and why? What are your and the other villagers' complaints against KCAP?
- Does KCAP's community development activities contribute to conservation? Why or why not? If yes, how?
- Why is KCAP doing literacy classes?

G. Gender Issues

- Why has KCAP established Mothers' Groups?
- How do Mothers' Group members select their leader? Has it been effective?
- Did you participate in gender sensitive training or workshops? If yes, what did you learn?
- Does your village have a Mothers' Group? Is every household a member of a
- Mothers' Group? Why do or don't women join Mothers' Groups?
- Are men helping Mothers' Groups or not? Why? Have project activities contributed to improving women's social and economic status? How and what are the indicators? How is your Mothers' Group fund utilised? What is your interest rate? Who fixes the rates and other rules, and why?
- Are Mothers' Groups' savings and credit schemes helping you and/or women to improve their income, or just producing more work burden? Who is benefiting from the income: the wife, husband or whole family?
- Is the girl's scholarship given to the poorest girl in the village? How do you select the girl and who makes the final decision? Has there been any dispute over selection? Why or why not?
- Why do or don't women need a quota in the CAUCs and the Council?
- Have women's positions in the village improved since the project? Why or why not? Have your and others' views and attitudes towards sons and daughters changed? Why or why not?
- Do men listen to women members in meetings? Why or why not?
- What are the main social changes brought about by the KCAP in terms of women empowerment?
- Why are women members in CAUCs and Council not active? How can they be made more active in the decision-making process?
- How does your husband and/or other men in the village view the role of women and Mothers' Groups?

- What are the advances and disadvantages of working in groups?
- How much time do you and others spend working in KCAP meetings and other activities?

H. Local Institutions

- What do you know about the work of UGs, MGs, CAUCs and the Council? What is your opinion on their work performance?
- What is your view (e.g., good or bad) on creating local institutions to implement KCAP?
- Which is the most effective and most ineffective of the KCA institutions?
- How transparent is the work of KCAP, UGs, CAUCs and the Council? How could their performance be improved?
- Will the project activities collapse in the absence of the project or will they continue? Why and why not?
- Can the UGs, UCs and the KCA-MC manage the KCA and control poaching? How do you see the future of the KCA in terms of conservation?
- What would be the most effective way to manage the KCA?

I. Future Directions

- Can the UGs, CAUCs and Council manage the KCA? Why or why not? How can they be made stronger?
- Should KCAP stay or leave? For how long should it stay? Why?
- Can local UGs, CAUCs and the Council control poaching of wildlife and protect wildlife that are problematic for villagers, and how?
- Can local people manage the KCA or do they need a park authority and army to protect it?
- How do you see the future of the KCA 10 years down the road? Do you consider the KCAP as a success or failure? Why?

Ib: Guiding Questions for Expert Interviews in Kathmandu and Taplejung

A. Conservation Approaches

- What has been learned from the protectionist paradigm or the Yellowstone model? What has been learned from the two decades of ICDPs in Nepal?
- What were the key lessons learned from the ACA, Makalu-Barun National Park and Conservation Area buffer zones (MBNP/BZ)? Why Makalu-Barun Conservation Area was changed to MBNP/BZ Are ICDPs a 'carrot' or a mixture between a 'carrot' and a 'stick'?
- Is a win-win situation possible in community-based conservation? Why or why not?
- How effective are the present protected area management approaches of Nepal?
- What are the main, present and foreseeable future conservations challenges for Nepal?
- Is it possible to manage conservations areas and parks more strictly for the benefit of biological diversity conservation like we did in the 1970s and 1980s?
- Why is Nepal adopting a landscape level conservation approach, like the Tarai Arch Landscape? Is it an alternative to the PA approach?
- What is your view on creating a biosphere reserve in Nepal?

- Is there an alternative approach to participatory conservation?
- What could be the best conservation approach and model for Nepal? Why?
- What is your view on the appropriateness of national policies on protected area management and the sustainable utilisation of forest and wildlife resources?

B. Local Participation

- Why should local people participate in conservation?
- Why is community participation in conservation important?
- Is it justifiable to impose conservation rules and asked local people to protect livelihood threatening wild animals?
- Why should local people protect tigers, snow leopards and elephants and crop-raiding animals, because these animals threaten their lives and livelihoods?
- Is it possible to reduce poverty through conservation efforts in Nepal? How?
- How effectively are community-based conservation efforts making a difference in buffer zones and conservations areas?
- What are the successful principles and strategies applied in ICDPs?
- What are the internal and external factors that influence the outcome of ICDPs? What are the preconditions for balanced conservation and livelihood outcomes in protected areas?
- Is conservation a top-down global and national agenda that places the highest cost on local people who protected these same resources?

C. Conservation Strategies

- How to define and strategise inclusive participatory conservation? How to enhance participatory conservation?
- How to build staff commitment?
- How to incorporate the multiple views of stakeholders?
- How to ensure project benefits reach the poorest of the poor or the most natural resources dependent people?
- Is it possible to bring equitable benefits to the local people? How?
- Who should compensate local people for their lives and livelihood losses due to conservation measures and wildlife?

D. Future of KCA

- Is KCAP a success or failure? What are the indicators?
- What is your view on the protected area privatisation policy of the government? Is it NGO-based or real profit-making privatisation?
- What would be the role of the Army when projected areas are handed over to selected institutions and/or communities?
- Will the KCA-MC be able to manage the KCA? Why or why not? How can the
- KCA-MC be made able managers?
- For how long should KCAP continue its efforts? Why?
- Will the KCA-MC be able to control poaching in the KCA? How?
- How do you see the future of the KCA in the hands of the local community in the year 2020?

APPENDIX II: LIST OF 50 EXPERT INTERVIEWEES IN ALPHABETICAL ORDER OF ORGANISATIONS

S.N.	Name of Interviewee	Organisation	Designation
1.	Dr Moksha Ram Maharjan	CARE, Nepal	Program Coordinator
2.	Ms Meeta S. Pradhan	CARE, Nepal	Program Coordinator
3.	Dr Keshab Raj Kandel	Department of Forest	Deputy Director General
4.	Mr Jamuna Krishna Tamrakar	Department of Forest	Director General
5.	Mr Ram Prasad Lamsal	Department of Forest	Project Coordinator, TAL
6.	Dr Uday Raj Sharma	Department of Plant Resources	Director General
7.	Mr Shailendra Thakali	DfID, Nepal	Deputy Rural Livelihoods Advisor
8.	Dr Tirtha Man Maskey	DNPWC	Director General
9.	Mr Gopal Upadhya	DNPWC	Planning Officer
10.	Mr Jhamak Karki	DNPWC	Warden, KCA & Coordinator KCAP
11.	Mr Narayan Poudel	DNPWC	Deputy Director General
12.	Mr Shyam S. Bajimaya	DNPWC	Ecologists
13.	Mr Uba Raj Regmi	DNPWC	Chief Warden, SPNP
14.	Mr Ugal Kishor Thakur	DNPWC	Ranger, KCA(P)
15.	Dr Eklabya Sharma	ICIMOD, Nepal	Head of Natural Resources
16.	Dr Gabriel Campbell	ICIMOD, Nepal	Director General
17.	Dr Mahesh Banskota	IUCN Nepal	Country Representative
18.	Mr Sagendra Tiwari	IUCN Nepal	Program Coordinator
19.	Dr Shanta Raj Jnawali	KMTNC	Director
20.	Dr Sidhartha B. Bajracharya	KMTNC	Director
21.	Ms Meena Joshi	KMTNC	Senior Program Officer
22.	Mr Ganga Jung Thapa	KMTNC	Executive Officer
23.	Dr Mohan Wagle	MFSC	Chief, Planning & HR Division
24.	Ms Chhing Lamu Sherpa	Mountain Spirit	Team Leader
25.	Dr Harka Gurung	New Era	Director & Scholar
26.	Dr Pralad Yonzon	Resources Himalaya	Team Leader
27.	Dr Ava Darshan Shrestha	SAMANATA	Gender & Development Specialist
28.	Dr Bharat Pokharal	SDC, Nepal	Project Manager, NSCFP
29.	Mr Karl Schuler	SDC, Nepal	Deputy Country Director
30.	Ms Dibya Gurung	SDC, Nepal	Program Officer
31.	Dr Lakpa Sherpa	The Mountain Institute	Director, Tibet Program
32.	Mr Angrita Sherpa	The Mountain Institute	Senior Program Officer
33.	Mr Brain Peniston	The Mountain Institute	Director
34.	Mr Hum Bahadur Gurung	UNDP, Agenda 21 Project	National Project Manager
35.	Mr Tej B.G. Chhetri	UNDP, Parks and People Project	Project Officer

(contd.)

36.	Mr Top B. Khatri	UNDP, Parks and People Project	Project Manager
37.	Mr Gopal Sherchan	UNDP/GEF	Coordinator GEF Small Grants
38.	Dr Christy Williams	WWF International	Elephant Coordinator
39.	Dr Chandra Prasad Gurung	WWF Nepal Program	Country Representative
40.	Dr Sarala Khaling	WWF Nepal Program	Director, DRM
41.	Mr Angphuri Sherpa	WWF Nepal Program	Project Manager, KCAP
42.	Mr Anil Manandhar	WWF Nepal Program	Conservation Program Director
43.	Mr Bharat Pokharel	WWF Nepal Program	Program Officer
44.	Mr Dhana Rai	WWF Nepal Program	Project Manager, TAL
45.	Mr Mohan Dhakal	WWF Nepal Program	Finance and Admin. Officer, KCAP
46.	Mr Rajendra Gurung	WWF Nepal Program	Project Manager, SCAFP
47.	Mr Tilak Dhakal	WWF Nepal Program	Project Manager, NMCP
48.	Ms Janita Gurung	WWF Nepal Program	Senior Program Officer
49.	Ms Sushila Nepali	WWF Nepal Program	Program Officer, DRM
50.	Mr Mingma N. Sherpa	WWF-US	Program Director, Asia Pacific

APPENDIX III: LIST OF PARTICIPANTS OF STAKEHOLDER CONSULTATIONS

S.N.	Name of Participant	Gender	VDC	Designation/Institution
1.	Abir Man Rai	Male	Yamphudin	Vice Chairperson, KCA User Committee
2.	Amar Kumar Phembu	Male	Phungling	Member, Laligurans User Group
3.	Ambika Hangwang	Female	Phungling	Member, Environment Conservation and Development (ECD)
4.	Angphuri Sherpa	Male	-	Project Manager, KCAP
5.	Badri Binod Dahal	Male	-	Senior Ranger, KCAP
6.	Bal Sapkota	Male	Phungling	Representative, CPN-UML
7.	Bishnu Maya Rai	Female	Yamphudin	Member, KCA Management Council
8.	Chandra Kala Thapa	Female	Phungling	Representative, Women Service Centre
9.	Chandra Mani Subba	Male	Tapethok	Ex-KCAP staff
10.	Chandra P. Gurung	Male	Yamphudin	Member, KCA User Committee
11.	Chhatra Man Gurung	Male	Yamphudin	Member, KCA User Committee
12.	Chheten Sherpa	Male	Lelep	Ex-KCAP staff
13.	Chheten Dandu Sherpa	Male	Lelep	Chairperson, Snow Leopard Conservation Committee (SLCC), Ghunsa
14.	Chhatra Man Gurung	Male	Yamphudin	Member, Pathibhara User Group
15.	Dawa Chungda Sherpa	Male	Lelep	Ex-Member, DDC Taplejung
16.	Dawa T. Sherpa	Male	Lelep	Chairperson KCA Management Council
17.	Dharchung Sherpa	Male	Lelep	Ex-KCAP staff
18.	Dharma Prasad Paudel	Male	Phungling	Reporter, Kantipur National Daily
19.	Gaj Bir Limbu	Male	Tapethok	Member, Bihani User Group
20.	Gaybu Sherpa	Male	Lelep	Ex-KCAP staff
21.	Geeta Subba	Female	Phungling	Member, Nepal Mahila Jagaran Sang
22.	Ghurme Cheden Sherpa	Male	Gola	Member, KCA User Committee
23.	Hema Lokucha	Female	Phungling	NGO representative
24.	Indira Niraula	Female	Phungling	Member, Nepal Mahila Udyami Sang
25.	Jayendra Raj Koirala	Male	-	Admin & Finance Officer, KCAP
26.	Khagendra Adhikari	Male	Phungling	Member, Nepal Patrakar Mahasang
27.	Khatga B. Khatka	Male	Phungling	Member, local NGO (ex-KCAP staff)
28.	Kishor Kumar Rai	Male	Phungling	Member, Nepal Patrakar Mahasang
29.	Krishna Thewe	Male	Phungling	Member, ECD
30.	Kubir Man Rai	Male	Yamphudin	Member, KCA User Committee
31.	Lakpa Sherpa	Male	Gola	Ex-Member, DDC Taplejung
32.	Laxman Adhikari	Male	Phungling	Vice Chairperson, DDC Taplejung
33.	Lila Bokhim	Female	Phungling	Member, Nepal Mahila Udyami Sang
34.	Madhu Kala Chongwang	Female	Phungling	Representative, Farmers Awareness Centre

(contd.)

35.	Makar Dhoj Limbu	Male	Tapethok	Member, KCA Management Council
36.	Maya Gurung	Female	Phungling	Member, Alternative Group for Community Development (AGCD)
37.	Mukti Raj Paudel	Male	Phungling	Ex-KCAP staff
38.	Nima Gaybu Sherpa	Male	Lelep	Member, User Group
39.	Nirmal Kumar Singh	Male	Phungling	Rural Energy Development, Taplejung
40.	Nupu Bhote	Male	Lelep	Member, KCA Management Council
41.	Nupu Sherpa	Male	Gola	Member, KCA Management Council
42.	Nurpu Sherpa	Male	Gola	Member, KCA Management Council
43.	Nurpu Sherpa	Male	Lelep	Member, SLCC, Ghunsa
44.	Om Prakash Rai	Male	Yamphudin	Ex-Member, DDC Taplejung
45.	Parag Bijukche	Male	-	Field Officer, KCAP
46.	Pasang Nupu Sherpa	Male	Lelep	Ex-KCAP staff
47.	Pemba Chhoki Sherpa	Female	Lelep	Secretary, Ghunsa Mothers' Group
48.	Pemba Chhoki Sherpa	Female	Lelep	Member, SLCC, Ghunsa
49.	Pengi Sherpa	Female	Lelep	Chairperson, Ghunsa Mothers' Group
50.	Prakash Mani Kafle	Male	Phungling	Representative, District Agriculture Office
51.	Pratikchha Gurung	Female	Phungling	Member, Our Mothers' Group
52.	Raj Kumar Niraula	Male	Phungling	Chief District Officer
53.	Rajendra Shrestha	Male	Phungling	Member, Nepal Patrakar Mahasang
54.	Rajib Das Rajbhandari	Male	Phungling	Representative, District Agriculture Office
55.	Ram Bahadur Gurung	Male	Yamphudin	Member, KCA User Committee
56.	Ram Bahadur Limbu	Male	Tapethok	Member, Bihani User Group
57.	Ram Narayan Shaha	Male	Phungling	Representative, District Livestock Development Office
58.	Ram P. Tiwari	Male	Phungling	Representative, Gramin Urja Bikas Sang
59.	Ramesh Kumar Limbu	Male	Tapethok	Member, Bihani User Group
60.	Shanti Bokhim	Female	Phungling	Member, Nepal Mahila Udyami Sang
61.	Santosh	Male	Phungling	Member, ECD
62.	Santosh Khatiwada	Male	Phungling	Member, Local NGO (TUBS)
63.	Sarika Phembu	Female	Phungling	Member, Madibung Mothers Group
64.	Sarita Adhikari	Female	Phungling	Member, AGCD
65.	Sita Gurung	Female	Phungling	Member, Our Mothers' Group
66.	Sita Niraula	Female	Phungling	Reporter, Annapurna Post (Daily)
67.	Sambhu K. Prasai	Male	Phungling	Member, Nepal Patrakar Mahasang
68.	Tara Prasad Sitaula	Male	Phungling	Reporter, Nepal Television
69.	Tarchha Dip Gurung	Male	Yamphudin	Nursery Manager
70.	Tashi Sherpa	Male	Gola	Ex-KCAP staff
71.	Tsheten Dandu Sherpa	Male	Lelep	Member, KCA Management Council
72.	Ujir Bahadur Karki	Male	Phungling	Representative, Gharelu Samiti
73.	Ujjwal Shrestha	Male	Phungling	Member, AGCD

APPENDIX IV: LIST OF HIGHLY PROTECTED MAMMALS AND BIRDS KNOWN OR SUSPECTED TO OCCUR IN KCA

IV.a: List of Thirty Highly Protected Mammals

Category	S.N./Nepali Name	Common Name	Scientific Name	Country Status/ CITES Appendix
Insectivorous	1. Rukh chhuchundro	Common tree shrew	Tupia glis	II
Bats	2. Thulo chamero	Flying fox	Pteropus giganteus	II
Primates	3. Pahare bandar	Assamese macaque	Macaca assamensis	P/II
	4. Dhedu, langur	Common langur	Presbytis entellus	I
	5. Bandar	Rhesus macaque	Macaca mulatta	II
Carnivores	6. Shyal	Jackal	Canis aureus	III
	7. Boaso	Grey wolf	Canis lupus	P/I
	8. Rato feuro	Red fox	Vulpes vulpes	P/III
	9. --	Wild dog	Cuon alpinus	II
	10. Chari bag	Leopard cat	Felis bengalensis	P/I
	11. Sunaulo biralo	Golden cat	Felis temmincki	I
	12. Ban biralo	Jungle cat	Felis chaus	II
	13. Chituwa	Common leopard	Panthera pardus	I
	14. Hiu chituwa	Snow leopard	Uncia uncia	P/I
	15. Doase chituwa	Clouded leopard	Neofeilis nebulosa	P/I
	16. Himali kalu bhalu	Himalayan black bear	Selenarctos thibetanus	P/I
	17. Habre	Red panda	Ailurus fulgens	P/I
	18. Malsanpro	Mountain weasel	Mustela altaica	III
	19. Malsanpro	Yellow bellied weasel	Mustela kathiah	III
	20. Ringmu	Siberian weasel	Mustela sibirica	III
	21. Malsanpro	Yellow throated marten	Martes flavigula	III
	22. Ot	Common otter	Lutra lutra	I
	23. Ot	Smooth-coated otter	Lutra perspicilsata	II
	24. Ot, pani katuwa	Small-clawed otter	Aonyx cinerea	II
	25. Thulo nir biralo	Large Indian civet	Viverra zibetha	III
	26. Himali kasturi biralo	Himalayan palm civet	Paguma karvata	III
Ungulates	27. Kasturi mirga	Himalayan musk deer	Moschus chrysogaster	P/I
	28. Ghoral	Goral	Nemorhaedus goral	I
	29. Thar, sero	Mainland serow	Capricornis sumatraensis	I
Scaly Anteaters	30. Salak	Pangolin	Manis pentadactyla	P/II

(contd.)

Note: P= Protected country status under the DNPWC Act 1973

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

Appendix I includes species threatened with extinction and which must be subject to particularly strict regulation and trade is only authorised in exceptional circumstance.

Appendix II includes species that are not necessarily threatened with extinction now but may become so unless trade is strictly regulated.

Appendix III includes species that are subject to regulation within the jurisdiction of a party for which the cooperation of the other parties is needed in order to prevent or restrict their exploitation.

Sources: Sherpa 1994, Carpenter et al. 1994, Yonzon 1996, KCA-MC 2005

IV.b: List of Seven Highly Protected Bird Species Found in KCA

1. Kongma hiu kukhura	Tibetan snow cock	Tetraogallus tibetanus	I
2. Chilime	Blood pheasant	Ithaginis cruentus	II
3. Munal	Satyr tragopan	Tragopan satyra	II/Near threatened-IUCN
4. Danphe	Himalayan monal	Lophophorus impejanus	I
5. Malewa	Rock pigeon	Columba livia	II
6. Basta bakalla	Cattle egret	Bubulcus ibis	II
7. Ragmata mahachil	Imperial eagle	Aguila heliaca	Vulnerable-IUCN

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):

Appendix I includes species threatened with extinction and which must be subject to particularly strict regulation and trade is only authorised in exceptional circumstance.

Appendix II includes species that are not necessarily threatened with extinction now but may become so unless trade is strictly regulated.

Appendix III includes species that are subject to regulation within the jurisdiction of a party for which the cooperation of the other parties is needed in order to prevent or restrict their exploitation.

Source: Sherpa 1994, Carpenter et al. 1994, Yonzon 1996, KCA-MC 2005

APPENDIX V: LIST OF ENDEMIC FLOWERING PLANTS AND COMMON MEDICINAL AND AROMATIC PLANTS FOUND IN KCA

V.a: List of Endemic Flowering Plants Found in Different Altitudes Belts of KCA

S.N.	Family	Botanical Name	Altitude (metres)	Location
1.	Ranunculaceae	Aconitum alpine-nepalese	4,300	Khambachen, Lhonak
2.		A. deltoideum	2,900-3,300	Walangchung-Gola
3.		A. staintonii	3,500-4,100	Walangchung-Gola
4.	Begoniaceae	Begonia leptoptera	1,400-1,500	Tapethok, Hellok
5.	Rosaceae	Cotoneaser staintonii	4,100	Tamor Valley
6.	Compositae	Cremanthodium nepalense	2,800-4,900	Yangma
7.	Euphorbiaceae	Euphorbia pseudosikkimenis	1,500-1,800	Hellok, Ila-Danda
8.	Euphorbiaceae	Euphorbia metanumbigenum	1,500-2,400	Ghunsa Valley
9.	Balsaminaceae	Impatiens insignis	1,400-1,800	Tawa, Tapethok
10.	Labiatae	Microtoena nepalensis	2,100-2,600	Above Lelep
11.	Scrophulariaceae	Pedicularis tamurensis	3,700	Tamor Valley
12.	Gramineae	Poa imperalis	4,400	Yangma River
13.	Caryophyllaceae	Stellaria ovalifolia	1,800-2,600	Ilad-Danda, Selap Zongim
14.	Acanthaceae	Strobilanthes tamburensis	1,200-2,100	Tamor River

V.b: List of Medicinal and Aromatic Plans (MAPs) Found in Different Locations in KCA

S.N.	Nepali Name	Family	Botanical Name	Found Location
1.	Ban phapar	Polygonaceae	Fagopyrum tartaricum	Tamur Valley
2.	Bhale	Gentianaceae	Swertia nervosa	Lungthung, Yamphudin, Gyabla,
3.	Bhuinchuk	Elaegnaceae	Hippothea tibetana	Ghunsa, Rhonak, Yangma
4.	Bikh	Ranunculaeae	Aconitum spicatum	Ghunsa, Yamphudin, Gola,Yangma
5.	Bikhma	Ranunculaceae	Aconitum bisma	Gyapla, Gola
6.	Bojho	Araceae	Acorus calamus	Ila Danda, Zongim
7.	Budo okhati	Saxifragaceae	Asilbe rivularis	Tamor Valley, Yamphudin
8.	Chariamilo	Oxalidaceae	Oxalis corniculata	Hellok, Tapethok, Yamphudin, Lelep
9.	Chilaune	Theaceae	Schima wallichii	Tapethok, Hellok, Sekathum
10.	Chimfing	Umbelliferae	Heracleum nepalense	Ghunsa, Gola, Gyapla, Zongim
11.	Chiraita	Gentianaceae	Swertia chirayita	Hellok, Ila Danda, Yamphudin, Lelep, Amjilessa, Lelep, lungthung
12.	Chiraito	Gentianaceae	Swertia chirayita	Tapethok, Yamphudin, Zongim
13.	Ghortapre	Umbelliferae	Centella asiatica	Hellok, Lelep, Tapethok
14.	Hadchur	Loranthaceae	Viscum articulatum	Hellok, Tapethok, Yamphudin
15.	Harkatta	Cyperaceae	Carex cruciata	Hellok, Tapethok
16.	Indrabeli	Cuscutaceae	Cuscuta reflexa	Yamphudin

(contd.)

17.	Jaringo	Phytolaccaceae	Phytolacca acinosa	Yamphudin
18.	Jatamansi	Valerianaceae	Nardostachys grandiflora	Ghunsa, Yamphudin, Gola, Yangma
19.	Khokim	Saxifragaceae	Bergenia purpurascens	Ghunsa, Yamphudin
20.	Kholo	Umbelliferae	Cortia depressa	Ghunsa, Yamphudin, Gola, Yangma
21.	Kutki?	Scrophulariaceae	Neopicrorhiza scrophulariiflora	Ghunsa, Yamphudin, Gola, Yangma
22.	Laduwa	Araceae	Arisaema sp.	Yamphudin
23.	Laduwa	Araceae	Arisaema sp.	Yamphudin
24.	Lokta	Thymelaceae	Daphne bholua	Lelep, Luntgun, Yamphudin, Gola,
25.	Maikopila	Compositae	Saussurea tridactyla	Ghunsa, Yamphudin, Gola, Yangma
26.	Mauwa	Juglandaceae	Engelhardtia spicata	Hellok, Sekathum
27.	Mentok sepu	Cucurbitaceae	Herpetospermum	Gola
28.	Nerapati	Labiatae	Anisomeles indica	Hellok, Tapethok
29.	Padamchal	Polygonaceae	Rheum australe	Ghunsa, Gola, Yamphudin
30.	Pakhanved	Saxifragaceae	Bergenia ciliata	Ghunsa, Gola, Yamphudin
31.	Panchaule	Orchidaceae	Dactylorhiza hatagirea	Ghunsa, Gola, Yamphudin
32.	Pani Amala	Nephrolepidaceae	Nephrolepis auriculata	Hellok, Tapethok, Yamphudin
33.	Ranisinka	Pteridaceae	Cheilanthes dalhousiae	Hellok
34.	Sarnaguru	Gentianaceae	Swertia multicaulis	Ghunsa, Gola, Yamphudin
35.	Siltimur	Lauraceae	Lindera neesiana	Gyabla, Yamphudin,
36.	Somlata	Ephedraceae	Ephedra gerardiana	Gola
37.	Stuwa	Liliaceae	Paris polyphylla	Gola
38.	Sugandhbal	Valerianaceae	Valeriana jatamansi	Gola
39.	Tho	Araceae	Arisaema sp.	Yamphudin
40.	Titepati	Compositae	Artemisia indica	Yamphudin, Yangma

Note: Many of these plants are exported outside the KCA, and nearly all are locally used to cure food poisoning, fever, stomach disorders, coughs, headaches, colds, dysentery/diarrhoea, cuts/wounds, burns, typhoid, purify blood, body ache, sprains, scabies, eyesight/infections, tonsils/sore throat, snakebites, pneumonia, bone fractures, asthma, tapeworms, bowels, vomiting and jaundice. Many plants are poisonous and others are used as tonics and antiseptic.

APPENDIX VI: DRAFT KANGCHENJUNGA CONSERVATION AREA MANAGEMENT REGULATIONS 2004 (2061 BS) (*Unofficial Summary By Author*)

1. Introduction

The draft regulations are formulated in accordance with the power conferred by Section 33 of the National Parks and Wildlife Conservation Act 1973. The Government of Nepal has made the following provisions to facilitate the effective and efficient management of the KCA by the Kangchenjunga Conservation Area Management Council (KCA-MC), once the management responsibility for the KCA is handed over to the KCA-MC by the Government of Nepal.

2. Management Plan and Operation Plan Formulation and Approval

2.1 Management Plan Formulation and Approval

The KCA-MC shall prepare a five-yearly management plan in consultation with User Committees and User Groups for the conservation and management of the conservation area and submit it to the Ministry through the Department of National Parks and Wildlife Conservation. The Ministry shall approve the submitted management plan, if necessary after making required changes.

2.2 Operation Plan Formulation and Approval

Each KCA-User Committee (KCA-UC) shall prepare a five-yearly operation plan with year wise activities in accordance with and as directed by the approved management plan and in consultation with its affiliated User Groups. The KCA-MC shall approve the submitted management plan, if necessary after making required changes.

3. User Groups, User Committees and Management Council Formation, Roles, Responsibilities and Rights

3.1 User Groups Formation, Roles, Responsibilities and Rights

User Groups and Mothers' Groups (MGs) may be formed in required numbers to represent households in particular Village Development Committees (VDCs). Such User Groups will be registered with the office of the KCA-MC on the basis of its constitution and by recommendation from the relevant KCA-UC for its registration. Such User Groups will, among others, have the following major roles, responsibilities and rights:

a) Mobilize community members for conservation and the sustainable use of forests, wildlife and other natural resources found within its area
b) Effectively implement activities prescribed in the approved work plan for its area in a participatory and transparent manner and in accordance with guidance provided by the relevant KCA-UC
c) Call regular meetings, keep records, prepare annual programmes and submit it to KCA- UC

3.2 User Committees Formation, Roles, Responsibilities and Rights

Up to two User Committees may be formed in one VDC with, among others, representatives from User and Mothers' Groups in that area. Such User Committees will be registered with the office of the KCA-MC on the basis of its constitution and application requesting registration. Such User Committees will, among others, have the following major roles, responsibilities and rights:

a) Form sub-user committees as required
b) Mobilize User Groups for conservation and the sustainable use of forest, wildlife and other natural resources found within its area
c) Prepare and effectively implement activities prescribed in the approved operation plan for its respective area in a participatory and transparent manner and in accordance with guidance provided by the relevant KCA-MC
d) Call regular meetings, keep records, prepare annual programmes and submit it to KCA- MC

3.3 Management Council Formation, Roles, Responsibilities and Rights

The KCA-MC with, among others, representatives from each User Committee of KCA will be registered with the Department of National Parks and Wildlife Conservation (DNPWC). The Management Council will, among others, have the following major roles, responsibilities and rights:

a) Ensure the security, conservation and management of natural, cultural and social wealth within the KCA
b) Prepare and implement an approved management plan for the conservation and management of the KCA
c) Approve operation plans prepared by User Committees and distribute funds, monitor and evaluate and give guidance to User Committees
d) Mobilize User Committees for the conservation, development and social development of the KCA
e) Identify activities and decide amounts to be charged for the conducting of those activities within the KCA
f) Coordinate with various stakeholders and generate funds
g) Manage the KCA in a participatory, transparent and socially equitable manner and in accordance with guidance provided by the relevant government institution
h) Prepare and submit annual programmes, financial and technical progress reports to DNPWC

3.4 Fund Generation for KCA-MC

a) Funds received from the Government of Nepal or District Development Committee

b) Funds received from national or international organisations or individuals

c) Funds received as revenue from activities inside the KCA (tourist entry, extraction of natural resources including NTFPs, helicopter landing, operation of tourism related facilities, fines, etc.)

4. Activities Prohibited Within KCA

Besides the activities mentioned in the management or operation plan, no person shall be permitted to carry out any of the following activities on government land inside the KCA:

a) Activities detrimental to the flora, fauna or other natural resources of the area
b) Encroachment, excavation or construction related activities c) Use of harmful poisons or explosive substances, etc.
d) Slash-and-burn agriculture

The Management Council may also prohibit any activity that it sees as harmful to the natural environment or to public health within the KCA. The Management Council may give permission to the residents of the KCA to use stone, soil, sand and gravel for personal use and to operate small scale industries and tourism related activities within the KCA.

5. Special Provision for Forest Management

5.1 Handover of Conservation Community Forest

The Management Council may handover any forest area within the KCA as conservation community forest to user groups upon receiving an application from the concerned user group. The application should contain a work plan for the conservation and management of the area.

The Management Council may repossess the handed over area if the approved work plan is found to be not followed by the concerned conservation community forest user groups.

5.2 Handover of Conservation Religious Forest

The Management Council may handover any forest area within the KCA as conservation religious forest to any religious organisation, group or community upon receiving an application from the concerned religious organisation, group or community. The application should contain a work plan for the conservation and management of the area. Forest products from such conservation religious forests can be extracted only for the purpose of religious work within the religious site.

The Management Council may repossess the handed over area if the approved work plan is found to be not followed by the concerned conservation religious forest user groups.

5.3 Use of Forest Products

User groups may use forest products including NTFPs (except those whose use is prohibited by law) from conservation community and religious forests in accordance with the approved work plan without exceeding the quantities mentioned therein after paying the fee levied by the concerned user group or the KCA-MC for its extraction. The KCA-MC may levy charges and give permission for the transport of NTFPs outside or via the KCA.

6. Implementation of Community Development Related Activities

A User Committee shall prioritise and select community development activities mentioned in its operation plan for implementation and submit it to the KCA-MC along with the budget required and community contribution amount.

The Management Council, if necessary after making required changes will distribute the funds required for the implementation of the approved community development activities to the concerned User Committee. The concerned User Committee has to implement the activities in a transparent, participatory and socially equitable manner.

Any individual or organisation wishing to implement any activity or project inside the KCA in partnership with foreign organisations needs to get prior approval for such activity or programme from the Ministry.

The Management Council while implementing community development activities must ensure that the activity is not already being implemented by any institution, organisation or office to avoid duplication.

7. Miscellaneous

7.1 Wildlife Management

The Management Council may recommend the trophy hunting of wildlife (except of wildlife protected by law) in certain areas of the KCA, if there is a significant increase in the number of that species of wildlife inside the KCA. The Department will issues hunting permission for such wildlife, if it deems necessary, in accordance with the National Parks and Wildlife Conservation Act 1973. The revenue generated from hunting permissions will be reimbursed to the Management Council in full.

7.2 Permission Required

Permission is required from the Management Council, and in some instances from the Department, for following activities within KCA:

a) For tourists to enter the KCA.
b) To land helicopters, hot air balloons or other similar vehicles
c) Filming of documentary, feature films, etc.
d) Scientific research, etc.

The revenue generated from the issuing of these permissions will be reimbursed to the Management Council in full.

7.3 Punishment Authority

Except in cases of harm to wildlife protected by law, the Management Council is authorised to take necessary action against culprits who do not abide by the provisions made in this regulation. Legal action will be taken by the DNPWC in cases of harm to wildlife protected by law.

If anybody conducts activities contradicting the work plan of the conservation community forest within the conservation community forest, than the concerned community forest user group can punish that person as specified in the conservation community forest work plan of that particular user group.

7.4 Application of Land-use System

The Management Council may implement a land-use system in consensus with the concerned User Committee, on land prescribed by the management plan as suitable for the application of the land-use system.

7.5 Management Council Support

The local authority, police, government or non-government organisations, User Committee and other relevant stakeholders are required to give necessary support to the KCA-MC in relation to the conservation and management of the KCA.

7.6 Tenure and Election of KCA-UG, KCA-UC, KCA-MC officials

The tenure for KCA-UG, KCA-UC, KCA-MC officials shall be for five years but can be extended to one additional year in extra-ordinary situations. The rules for election shall be formulated by the election committee formed at the end of the five year tenure.

7.7 Guidelines and Operation Manual Preparation

The Management Council may prepare guidelines and an operation manual in accordance with the National Park and Wildlife Conservation Act 1973 and this regulation to realise the objectives and to facilitate the implementation of this regulation. The guidelines and the operation manual must be approved by the Ministry and the Department, respectively.

7.8 Changes or Alteration to Appendices

The Government of Nepal can make the necessary changes or alterations to the appendices by publishing a notice in the Nepal Gazette.

7.9 Cancellation of Management Contract

The contract for management of the KCA, can be annulled, if the Management Council is found to be: violating the National Park and Wildlife Conservation Act 1973 or this regulation; violating the conditions agreed upon during handover of management responsibility; conducting activities detrimental to the conservation of the biological diversity of KCA, or in case the Management Council requests the annulment of the contract.

APPENDIX VII: SUMMARY OF KANGCHENJUNGA CONSERVATION AREA MANAGEMENT PLAN 2004-2009 *(Unofficial Summary By Author)*

1. Introduction

This summary was prepared by translating the core section of the Kangchenjunga Conservation Area (KCA) Management Plan 2004–2009 (2061/62–2065/66 BS) from Nepali to English. The plan was endorsed by the Ministry of Forest and Soil Conservation, Department of National Parks and Wildlife Conservation in 2005 (see KCA-MC 2004 for details in Nepali language) and forwarded to the cabinet for approval to promote community-based protected area management in Nepal. The Government of Nepal plans to hand over the KCA to the Kangchenjunga Conservation Area Management Council (KCA-MC) for its management from 2005/06 at least for the next 10 years. The realisation of the plan will ensure the efficient and effective management of the area by the KCA-MC with the meaningful participation of its 44 User Groups, 32 Mothers' Groups and 7 User Committees, and profound support from local, national and international stakeholders. The plan is geared towards addressing the pertinent nature conservation and livelihood issues of the area.

The KCA plan intends to materialise its vision, goal and five-year objectives through six programmatic interventions (objective-wise strategies and activities) with adequate financial and human resources as presented below.

2. Vision, Goal and Objective

2.1. Vision: A Himalayan landscape where the biological and cultural treasures of the world's highest sacred mountains and deepest valleys are safeguarded and traditional rights over resources and the sustainable livelihoods of mountain people are secured.

2.2. Goal: The biodiversity of the KCA is managed by local communities to ensure the ecological integrity and to bring socio-economic benefits.

2.3. Objectives

1. To reduce pressure on forests and meadows through community ownership and management.
2. To conserve and manage representative species and habitats.
3. To raise awareness about biodiversity and livelihood linkages.
4. To provide alternative livelihood opportunities.
5. To strengthen the capacity of the KCA-MC and affiliated institutions.
6. To promote coordination among key stakeholders and advocate for the strengthening of policies, legislation and regulations.

3. Programmes

The following section presents six main programmes and briefly describes the intended impacts of each programme. The key programmatic strategies and activities to address specific conservation and sustainable livelihood issues are outline in the tables.

3.1. Biodiversity Conservation Programme

Issues	Strategies	Activities
• Excessive use of timber and fuelwood due to lack of alternatives • Habitat loss due to land encroachment, over grazing & slash-and-burn agriculture • Threats to endangered species from illegal trade, poaching & retaliatory killing of wildlife • Lack of knowledge on biodiversity status, key species and their habitats	• Encourage sustainable utilisation of natural resources • Manage natural resources with community participation • Adopt sustainable land use practices • Control illegal trade, poaching & retaliatory killing of wildlife • Create biodiversity database	• Promote alternative energy technology • Create community ownership in natural resource management • Plantations/multi-purpose nurseries • Manage degraded forests and alpine pastures • Wildlife monitoring & anti-poaching operations • Snow leopard monitoring/research • Minimise human-wildlife conflict (e.g. compensation schemes) *Research on key floral & faunal species*

The expected outcome of the conservation programme is that the pressure on forests will be decreased along with human-wildlife conflicts and poaching due to the introduction of alternative energy technologies, community-based natural resource management and effective wildlife monitoring and anti-poaching operations.

3.2. Conservation Education Programme

Issues	Strategies	Activities
• Limited awareness of the importance of natural resources among the local inhabitants	• Raise environmental awareness among the local inhabitants • Encourage community participation (particularly of women) in conservation activities	• Conservation awareness, study tours, environmental days, eco-clubs • Develop environment education packages • Increase gender awareness and women's participation in conservation

The expected outcome of conservation education programme is that KCA residents will be able to understand and interpret the relationships between conservation and livelihoods by 2009.

3.3. Community Development Programme

Issues	Strategies	Activities
• Lack of basic infrastructure for tourism development • Inadequate basic community infrastructures & social services	• Promote and develop tourism infrastructures and services • Develop basic community infrastructures & social services in coordination with like- minded organisations • Improve the health status of women & targeted groups	• Tourism management (e.g. campsites, garbage) & heritage conservation • Improve community infrastructures • Support community services

The expected outcome of the community development programme is that both conservation and poor/disadvantaged community members of the KCA will benefit from infrastructure.

3.4. Income Generation Programme

Issues	Strategies	Activities
• Limited skills & entrepreneurship opportunities are locally available • Lack of access to markets, technology & investment	• Promote sustainable forest management • Develop farm and off-farm entrepreneurial skills • Develop skills for self-employment • Assist access to markets (for local products), acquire skills & investment	• Sustainable management of non-timber forest products and medicinal and aromatic plants • Sustainable forest management • Enhance agriculture & cash crops

The expected outcome of the income generation programme is that the sustainable livelihoods of the KCA residents will be realised by 2006 through forestry and agriculture activities.

3.5. Administration and Management Programme

Issues	Strategies	Activities
• Weak capacity of community-based institutions • Lack of skilled human resources to run community-based institutions	• Institutionalise local institutions • Build the capacity of local institution members	• Institutionalise User Groups, User Committees & Council with policy reforms • Develop capacity of UGs, MGs, UCs & Council members

The expected outcome of the administration and management programme is that the KCA-MC and its sister institutions (UGs, MGs & UCs, etc.) will be fully capable of implementing the five-year management plan and managing the KCA by 2006.

3.6. Policy/Coordination Programme

Issues	Strategies	Activities
• Trans-boundary poaching • Limited coordination with district-based government line agencies & other NGOs & civil society • Limited coordination with national & international level stakeholders	• Debate legal provisions regarding trans-boundary poaching • Enhance coordination with district-based line agencies, NGOs & other stakeholders • Improve coordination with national & international level stakeholders for landscape level conservation	• Enhance partnerships with local people as well as neighbouring countries • Develop policy for landscape level conservation

The expected output of the policy programme is that the KCA-MC will be legally empowered by 2006 to manage the area in coordination and partnership with local and national stakeholders and neighbouring countries.

4. Programme Budget

Programmes	Five Year budget (NRs.)
1. Biodiversity Conservation	42,675,000
2. Conservation Education	8,905,500
3. Community Development	34,967,500
4. Income Generation	9,475,000
5. Administration and Management	31,436,000
6. Policy &Coordination/Partnerships	855,000
Total NRs.	128,313,500

Note: US $1= NRs.72 as at 25 July 2005

A total of NRs.21,647,250 in community contributions (mainly in form of voluntary labour) and NRs.106,666,250 in outside contributions (mainly from the WWF network) is expected (KCA-MC 2004, p.29).

APPENDIX VIII: STATUS OF MOTHERS' GROUPS SAVINGS AND CREDIT SCHEMES AS AT DECEMBER 2004

SN	Name of MG	Address	Savings	Interest Earned	Endowment Fund	Other	Expenses Income	Total Fund
1.	Tapethok	Tapethok: 1	4,490	25,378	60,000	1,380	5,922	85,324
2.	Pathibhara.	Tapethok: 2	8,252	30,6008	60,000	4,076	6,714	96,222
3.	Khamthak.	Tapethok: 3	9,070	24,277	60,000	1,578	7,350	87,575
4.	Sisawa.	Tapethok: 4	5,160	23,754	60,000	3,285	9,712	82,487
5.	Pathibhara.	Tapethok: 5,6	8,140	28,672	60,000	1,688	9,719	88,781
6.	Kumbhakarna.	Tapethok: 7	34,395	42,405	60,000	8,108	17,087	132,821
7.	Satyalung.	Tapethok: 8	17,256	39,257	60,000	7,742	10,872	113,383
8.	Sewalung	Tapethok: 9	13,480	29,366	60,000	2,453	8,526	96,773
9.	Sarmalla	Lelep: 1	15,325	34,730	60,000	4,457	7,680	106,832
10.	Kopiyak	Lelep: 1	4,710	12,646	50,000	246	6,752	60,850
11.	Madibung	Lelep: 2	6,491	24,348	60,000	10,708	7,178	94,369
12.	Lepchung	Lelep: 2	4,940	23,782	50,000	5,184	8,207	75,699
13.	Lelep	Lelep: 3	28,018	30,603	65,000	10,725	17,895	116,451
14.	Devi-Sthan	Lelep: 3	20,995	20,757	60,000	2,032	7,420	96,364
15.	Kang Devi	Lelep: 4	10,140	7,856	60,000	1,438	4,212	75,222
16.	Lungthung	Lelep: 5	12,391	19,113	65,000	6,640	12,989	90,155
17.	Tharpaling	Lelep: 6	8,875	22,731	60,000	2,337	6,409	87,535
18.	Shringkhala	Lelep: 7	11,170	30,210	60,000	10,338	6,329	105,389
19.	Amjilessa	Lelep: 8	2,660	13,559	60,000	58,530	11,890	122,859
20.	Gyabla	Lelep: 8	3,060	11,156	60,000	13,735	9,470	78,481
21.	Sambeling	Lelep: 9	3,420	18,899	60,000	26,568	12,257	96,630
22.	Ghunsa	Lelep: 9	8,725	68,090	60,000	65,948	25,864	176,899
23.	Kangchenjunga	Gola: 6,7,8	13,850	25,112	60,000	12,317	13,351	97,928
24.	Himali	Gola: 1,2,3,4,5	12,260	20,873	60,000	9,631	9,230	98,534
25.	Omikhangri	Gola: 9	6,880	6,061	60,000	1,690	5,135	69,496
26.	Mechi	Yamphudin: 1	4,690	17,851	60,000	11,239	8,237	85,543
27.	Timbu-Pokhari	Yamphudin: 5	4,300	27,449	55,000	2,752	3,564	85,937
28.	Kabeli	Yamphudin: 7,8	9,481	32,082	65,000	56,448	27,509	135,502
29.	Pathibhara.	Yamphudin: 2,3	5,930	39,599	60,000	21,655	11,679	115,505
30.	Laxmi	Yamphudin: 4	5,810	15,725	60,000	5,551	20,740	66,346
31.	Himalayan	Yamphudin: 6	5,440	27,486	60,000	13,312	11,822	94,416
32.	Kangchenjunga	Yamphudin: 9	3,755	26,707	60,000	11,251	24,251	77,462
			313,559	**821,141**	**1,920,000**	**395,042**	**355,972**	**3,093,770**

Source: WWF-NP 2004, own data 2004/2005

Note: The total fund is about US $43,000 at the exchange rate is USD $1 = NRs.72 in 2004. The project invested about $26,700 to create the 32 endowment funds.

APPENDIX IX: COMMUNITY-BASED KCA INSTITUTIONS AND LOCATION

	Ward	Ward	User Groups-44	Mothers' Groups-32
Lelep	1	Laligurans	Batase, Nagotha, Nimawang, Phukwan Philang	Sarmalla, Kopiyak
	2		Dandatol, Madhibung	Madibung, Lepchung
	3		Lelep, Ashi-Gaun	Lelep, Devi-Sthan
	4		Lawajin Kang Devi	Kang Devi
	5		Kumbakarna, Pathibhara	Lungthung
	6		Shrijana, Buddha-Tharpaling	Tharpaling
	7	Sekathum-Ghunsa	Shekhathum Saino	Shringkhala
	8		Gimigilla, Nagphokhari	Amjilessa, Gyabla
	9		Kumbhakarna, Phalay	Ghunsa, Sambeling
Tapethok	1	Bihani	Pawaden	Tapethok
	2		Sangbo	Pathibhara
	3		Namphowa	Khamthak
	4		Seti-Devi	Sisawa
	5		Angwa Karva-Devi	
	6		Lukumba	Pathibhara
	7	Simbuwa-Khola	Deurali Kumbhakarna	Kumbhakarna
	8		Parewa-Khim, Hangpangyok	Styalung
	9		Laligurans, Phaktanglung	Sewalung
Walanchung-Gola	1	Ghanglung	Rikhate	Himali
	2			
	3		Dhangje	
	4			
	5			
	6		Aching-La	Kangchenjunga
	7		Nakwa	
	8			
	9		Yangma	Omikhangri
Yamphudin	1	Pathibhara	Ekhim, Samethung	Mechi
	2		Chhimiya	Pathibhara
	3		Yangmutang	
	6		Chhibuk	Himalayan
	4	Kangchenjunga	Kartike	Laxmi
	5		Samethung	Timbu-Pokhari
	7		Makluwa	Kabeli
	8		Thungim	
	9		Kangchenjunga	Kangchenjunga

Kangchenjunga Conservation Area (KCA) - Dete

570000mE 58 59 60 610000mE

3090000mN 08 07 06 05 3040000mN

Yangma River

Walangchung-Gola

Tamor River

Ghunsa River

Simbua River

Lelep

Tapethok

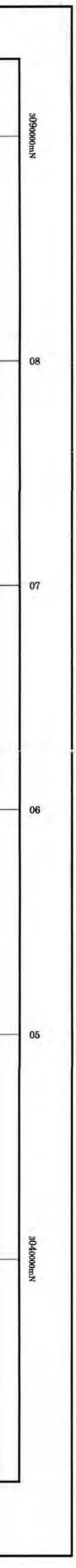
Yamphudin

N

Scale 1:180000

Km 2 0 2 4 Km

Cover Changes from 1989 to 2000



Permanent Land Cover

- Cultivated Land
- Alpine Grasses
- Open Forest & Shrubs
- Dense Forest
- Snow Covered Area
- Ice / Glaciated Area
- Grass- & Meadow Land
- Rocks & Bareland
- Water
- Main Rivers
- KCA Boundaries
- Village Development Committees

Change in Land Cover

- Dense Forest to Alpine Grasses
- Dense Forest to Open Forest & Shrubs
- Dense Forest to Rocks & Bareland
- Dense Forest to Cultivated Land
- Grass- & Meadow Land to Open Forest & Shrubs
- Grass- & Meadow Land to Dense Forest
- Grass- & Meadow Land to Cultivated Land
- Grass- & Meadow Land to Rocks & Bareland
- Alpine Grasses to Cultivated Land
- Alpine Grasses to Grass- & Meadow Land
- Alpine Grasses to Rocks & Bareland
- Alpine Grasses to Open Forest & Shrubs
- Alpine Grasses to Ice / Glaciated Area
- Alpine Grasses to Dense Forest
- Cultivated Land to Alpine Grasses
- Cultivated Land to Grass- & Meadow Land
- Cultivated Land to Dense Forest
- Cultivated Land to Open Forest & Shrubs
- Cultivated Land to Rocks & Bareland
- Open Forest & Shrubs to Cultivated Land
- Open Forest & Shrubs to Grass- & Meadow Land
- Open Forest & Shrubs to Alpine Grasses
- Open Forest & Shrubs to Rocks & Bareland
- Open Forest & Shrubs to Dense Forest
- Rocks & Bareland to Alpine Grasses
- Rocks & Bareland to Cultivated Land
- Rocks & Bareland to Ice / Glaciated Area
- Rocks & Bareland to Open Forest & Shrubs
- Rocks & Bareland to Dense Forest
- Ice / Glaciated Area to Rocks & Bareland
- Ice / Glaciated Area to Alpine Grasses
- Ice / Glaciated Area to Snow Covered Area
- Snow Covered Area to Ice / Glaciated Area
- Water decline
- Water increase
- No data (shades / clouds)

Database
Scene: LANDSAT 4 TM; 11-05-1989; WRS2: 139/041,
LANDSAT 7 ETM+; 12-26-2000; WRS2: 139/041
Projection: UTM; Zone 45; Northern Hemisphere
Reference Ellipsoid: WGS 84
Vector data: WWF Nepal

Processing by
Walter Schubiger

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